

VON MAYER, O.

Franzen, H., and von Mayer, O.

Hydrazirates of Certain Metallic Salts

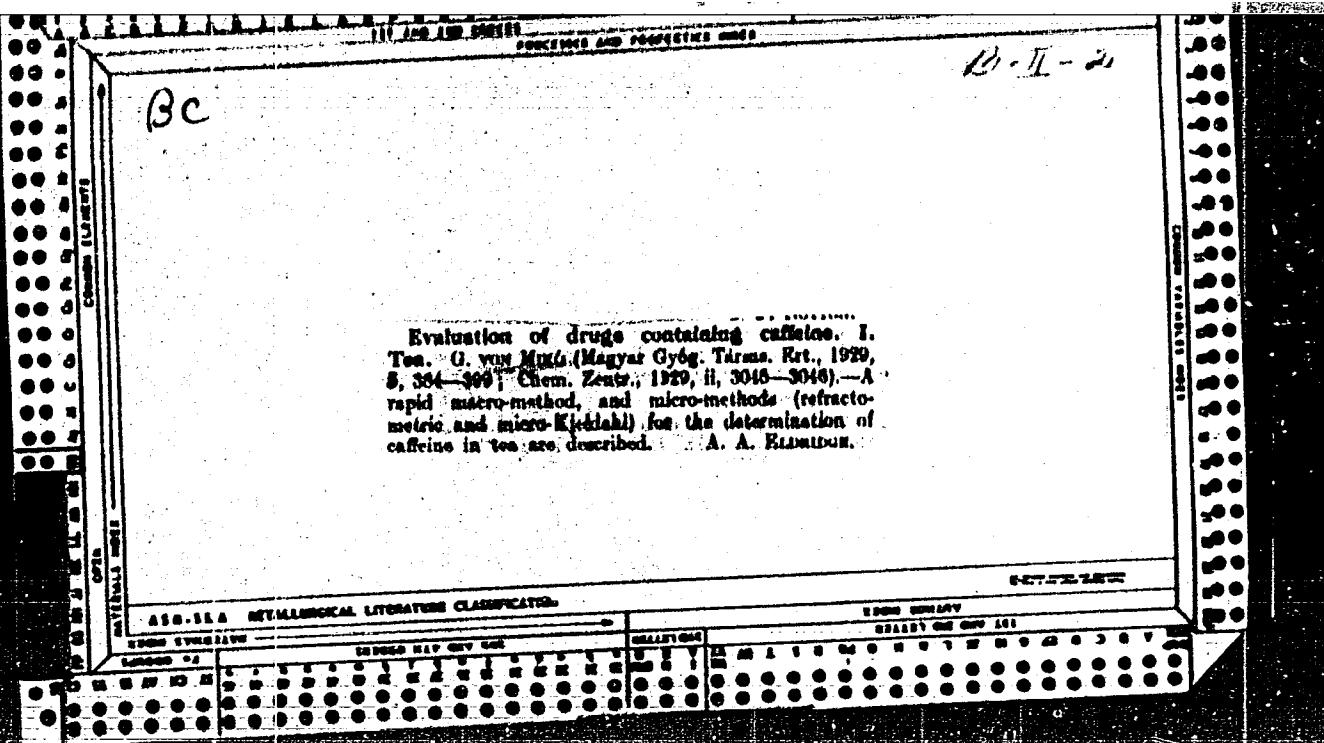
Z. anorg. Chem., Vol. 60, 1908, pp. 247-291

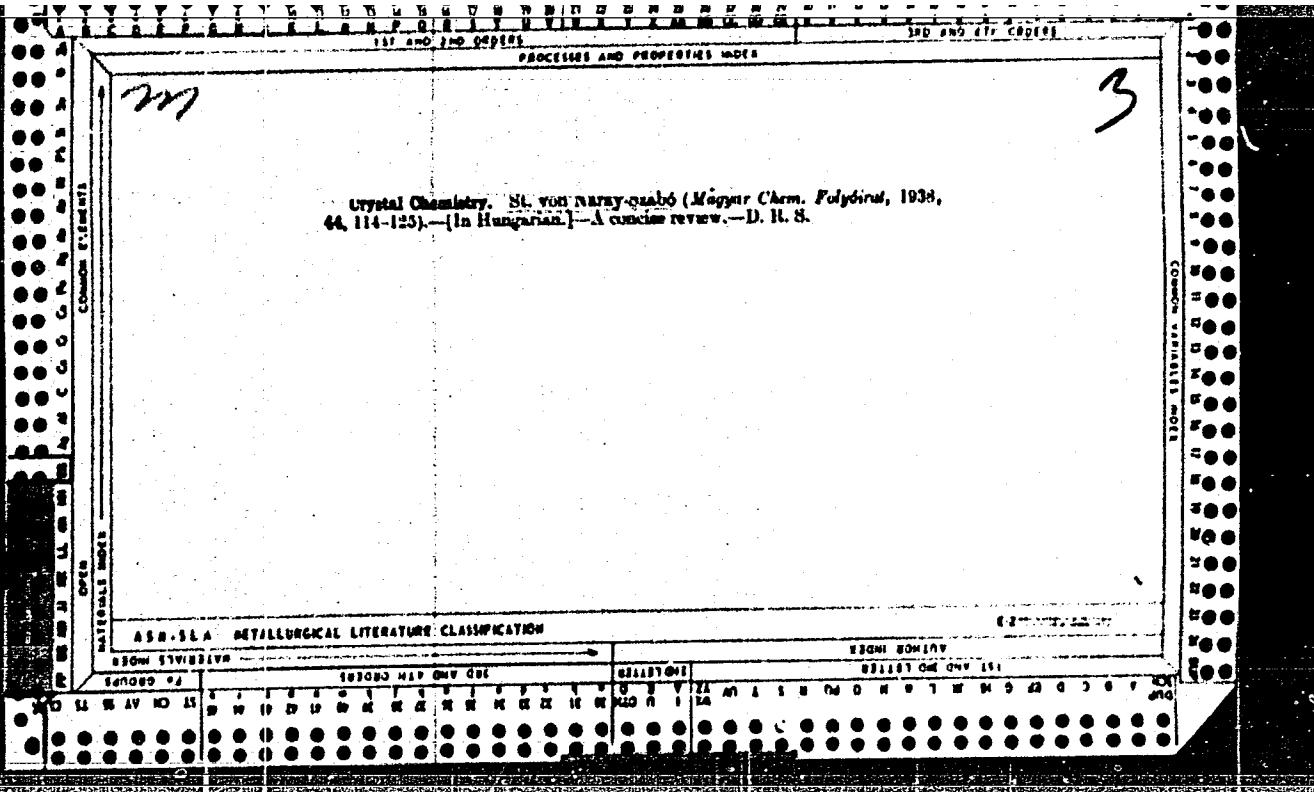
Chem. Abst., Vol. 3:755

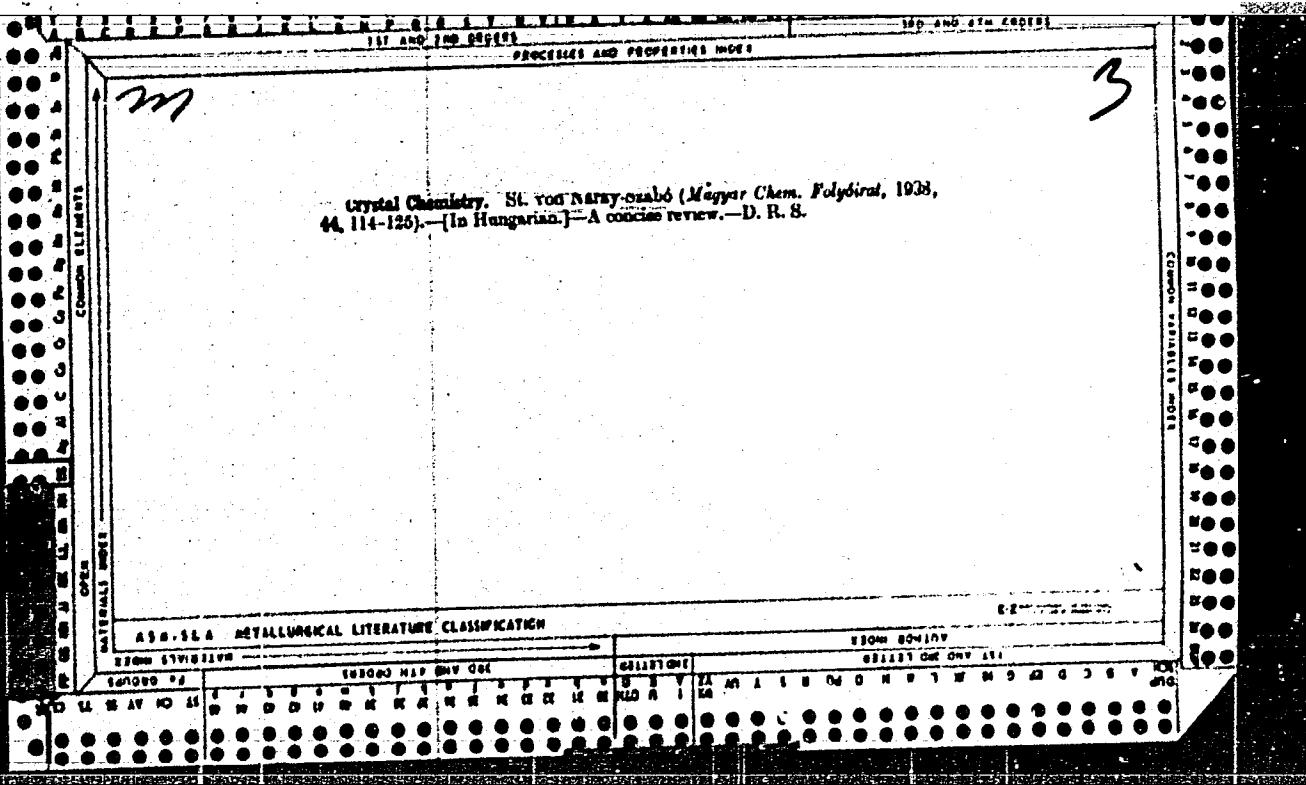
The authors present in detail numerous methods for the preparation of the 40 salts mentioned below, the general methods of analysis together with the numerical data for each of the salts, and the chief physical and chemical properties. The names of the salts described, classified according to the number of the hydrazine molecules entering the compounds, are as follows:

(1) Compounds with  $\gamma\text{N}_2\text{H}_3$ . Typical formula  $\text{MeX}_2(\text{N}_2\text{H}_3)_2$ , in which Me represents a bivalent metal and X a univalent acid radical. The dihydrazinates of  $\text{NiCl}_2$ ,  $\text{NiBr}_2$ ,  $\text{NiC}_2\text{O}_4$ ,  $\text{CoCl}_2$ ,  $\text{CoBr}_2$  and  $\text{CoC}_2\text{O}_4$ ;  $\text{ZnCl}_2$ ,  $\text{ZnBr}_2$ ,  $\text{ZnI}_2$ ,  $\text{ZnC}_2\text{O}_4$  and  $\text{ZnSO}_4$ ;  $\text{CdCl}_2$ ,  $\text{CdBr}_2$ ,  $\text{CdI}_2$ ,  $\text{CdC}_2\text{O}_4$ ,  $\text{CdSO}_4$ ,  $\text{CdCO}_3$  and  $(\text{Cd})_3(\text{PO}_4)_2$ ;  $\text{FeCl}_2$  and  $\text{FeC}_2\text{O}_4$ ;  $\text{MnCl}_2$ ,  $\text{MnSO}_4$  and  $\text{Mn}(\text{NO}_3)_2$ ;  $\text{CuC}_2\text{O}_4$ ,  $\text{Ca}(\text{NO}_3)_2$ ,  $\text{CaCl}_2$ ,  $\text{SrCl}_2$ ,  $\text{BaCl}_2$  and  $\text{BaBr}_2$ .

(2) Compounds with  $\text{N}_2\text{H}_4$ . Typical formula  $\text{MeX}_2(\text{N}_2\text{H}_4)_3$ .  $\text{NiCl}_2$ ,  $\text{NiBr}_2$ ,  $\text{NiSO}_4$ ,  $\text{Ni}(\text{NO}_3)_2$  and  $\text{NiS}_2\text{O}_6$ ;  $\text{CoSO}_4$  and  $\text{Co}(\text{NO}_3)_2$ ;  $\text{Zn}(\text{NO}_3)_2$ ,  $\text{Zn}(\text{NO}_3)_2$ ,  $\text{Cd}(\text{NO}_3)_2$ ,  $\text{CaBr}_2$ ,  $\text{SnBr}_2$ .







VONOCZKY, J.

Chemical Abstracts  
Vol. 48 No. 5  
Mar. 10, 1954  
Biological Chemistry

Anoxia in infantile dehydration. B. Kerpel-Fronius, P. Varga, J. Vonoczky, and K. Kurz (Univ. Children's Clinic, Pécs, Hung.). *Acta Paediat.* 40, 10-23 (1951) (in English); cf. C.A. 44, 9003d, 108856. —The balance between O transported to the tissues and O consumption was studied in 10 dehydrated and 6 r. . . infants and compared with the dehydrated and h r. . . infants and compared with the arteric v. tiss. O difference. The amt. of O supplied to the tissues (cardiac output X vol. % of arterial O) decreased parallel with increasing dehydration. The decrease in O supply is caused by a marked fall in cardiac output. The progressive narrowing between O demand and supply results in a stagnant anoxia comparable in extent with that in traumatic shock. Anoxia in dehydration is aggravated by factors capable of increasing the tissue demand for O, since dehydration, i.e., anhydremia, prevents adjustment of circulation to higher metabolic needs. The treatment of anoxia in dehydration should aim at the correction of disparity between O supply and demand. Cardiac output is raised by correcting anhydremic circulatory failure. At the same time O demand of the tissues should be lowered to basal levels by treating fever, infection, and restlessness, and avoiding protein. Ruth Berggren

(4)

CA

117

Hormonal influences on salt and water economy in water deprivation. E. Kerpcz-Kronius and J. Vojtěcháky (Univ. Pécs, Hung.). Z. Vitamia-, Hormon- u. Fermentforsch. 4, 119-61 (1951) (in English).—Hypertonicity of the extra-cellular fluid in thirsting rabbits was related to a decreased filtration of  $\text{Cl}^-$  in the kidney. Retention of  $\text{Na}^+$  and  $\text{Cl}^-$  and loss of  $\text{K}^+$  occur both in thirst and after administration of desoxycorticosterone acetate. The latter therefore enhances the effects of thirst. The loss of  $\text{Cl}^-$  caused in normal animals by pitressin does not occur in thirsting rabbits.

Erich Hirschberg

VONNOV, S. V. (Captain of the Medical Service)

"The Excretory Function of the Gastrointestinal Tract In Radiation  
Sickness!"

Voyenno-Meditsinskiy Zhurnal, No. 6, 1961;

KERPEL-FRONIUS, Odon, Dr.; VONOCZKY, Jozsef, Dr.

Significance of tonus changes of body fluids in exsiccoses in infantile diarrheas. Orv. hetil. 98 no.42:1143-1147 20 Oct 57.

1. A Pecsi Orvostudomanyi Egyetem Gyermekklinikajának (igazgató:  
Kerpel-Fronius odon dr. egyet. tanár) közleménye.

(DIARRHEA, in inf. & child

with dehydration, significance of osmotic pressure (Hun))

(DEHYDRATION, in inf. & child

diarrheal, significance of osmotic pressure)

(OSMOSIS AND PERMEABILITY

osmotic pressure in diarrheal dehydration in inf. (Hun))

VONOCZKY, Jozsef, dr.; VARBIRO, Bela, dr.

Energy requirements for infants with different body structures  
based on body surface area. Gyermekgyogyaszat 8 no.1-2:52-55  
Jan-Feb 57.

1. Pecszi Orvostudomanyi Egyetem Gyermekklinikajának (igazgató:  
dr. Kerpel-Fronius, Odon egészségi tanár) és a Baranya megyei  
Tanács Rendelointezete, Pécs (igazgató: dr. Linka, László)  
Gyermekgyogyaszatának kösléménye.

(INFANT NUTRITION)

energy requirements, comparison of calculation methods  
based on body weight & body surface area (Hun))

VONOCZKY, JOZSEF  
VAMBIRO, Bela, dr.; VONOCZKY, Jozsef, dr.

Simple method for the determination of the energy requirement  
of infants based on body surface area. Gyermekgyogyaszat 8 no.  
1-2:55-59 Jan-Feb 57.

1. Pecsi Orvostudomanyi Egyetem Gyermekklinikajának (Igazgató:  
dr. Kerpel-Fronius, Odon egyetemi tanár) és a Baranyamegyei  
Tanács Rendelointezete Pécs (Igazgató: dr. Linka, László)  
Gyermekgyogyaszatanak közleménye.

(INFANT NUTRITION

energy requirements, simple method for calculation  
based on body surface area (Hun))

KERPEL-FRONIUS, O.; VARGA, F.; KUN, K.; VONOCZKY, J.

Relation of function and circulation of the kidney in exsiccosis and atrophy. Orv. hetil. 93 no. 32:909-915 10 Aug 1952. (CIML 23:5)

1. Doctor. 2. Institute of Anatomy (Director -- Prof. Dr. Ferenc Kiss), Budapest Medical University.

VONOCZKY, J.  
(3623)

A vese szerepe a testnedvek osmo- es volumregulatiojaban The role of the kidney in the regulation of the osmotic pressure and volume of body fluids Magyar Belorvosi Archivum 1948, 1/6 (299-321) Graphs 7 Tables 3

Deprivation of salts by intraperitoneal administration of a solution of glucose and withdrawal of the ascitic fluid after three hours causes marked renal water loss both in normal and in thirsting rabbits. In proportion to the diuresis the osmotic pressure of the plasma soon reaches its normal value. This phenomenon cannot be regarded as a regulatory function: on the contrary, it is a renal failure involving both tubulus and glomeruli, as shown by experimentally increasing the plasma chloride level by intravenous injection of 5 % NaCl solution. In spite of thirsting, water diuresis continued and the plasma Cl level rose (494 mg. per 100 ml.). In subsequent experiments the mechanism of the hypochloruria of thirsting rabbits was analysed. The chief factor is the diminution of the glomerular filtration rate, (Cl mg./min). The tubules normally reabsorb at least 80 % of the Cl in the glomerular fluid, in this way hypochloruria develops. This experiment demonstrated that the Cl output of the kidneys depends on the quality of the filtered Cl; and not on the plasma chlorine level. In thirsting animals salt retention is enhanced by desoxy-corticosterone acetate. Pituitrin is without effect. Prolonged dosage with pituitrin causes uraemia, with decrease of filtration rate and hyposthenuria.

Hetenyi Jr. - Szeged

So: Excerpta Médica, Vol. II, No 7, Sec. II, July 1949

KERPEL-FRONIUS, E.; VARGA, F.; KUN, K.; VONOCZKY, J.

Clinical aspects and pathophysiology of infantile atrophy and  
marasmus. Acta med.hung. 2 no.1:58-84 1951. (CIML 20:7)

1. Of the Children's Clinic of Pecs University (Director--Prof.  
E. Kerpel-Fronius).

VONOCZKY, J. 1948

"Uraemia Due to Continuous Administration of a Neurohypophyseal Extract."

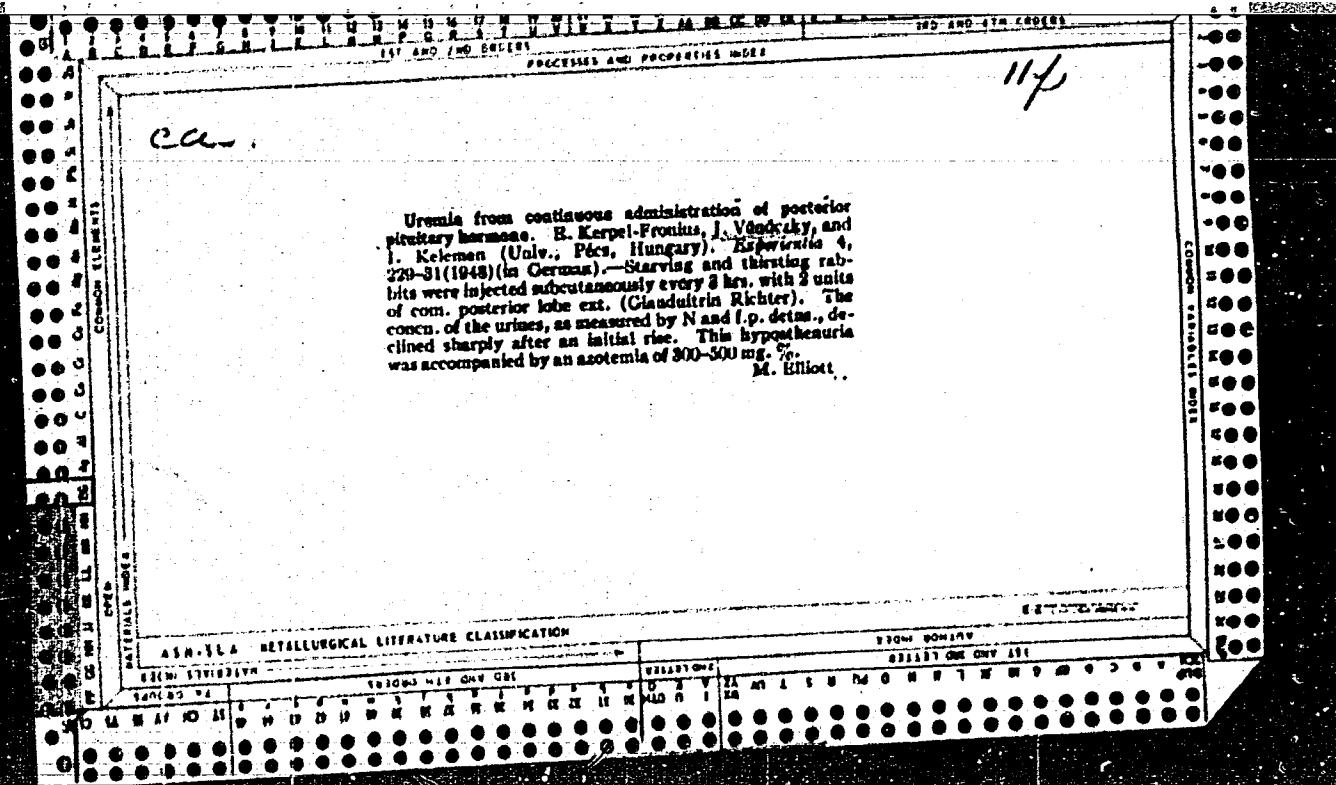
Experientia, 1948 4/6(229-231)

Abst: Exc. Med. 111, Vol. 111, No. 3, p. 85

VONOCZY, J. 1948

"The Role of the Kidney in the Regulation of the Osmotic Pressure and Volume of Body Fluids."

Magyar Belorvosi Archivum 1948, 1/6(299-321)  
Abst: Exc. Med. 11, Vol. 11, No. 7, p. 914



L 40042-66 EWP(k)/EWT(m)/EWP(e)/EWP(t)/ETI IJP(c) WH/JD  
ACC NR: AP6017106 (N) SOURCE CODE: UR/0226/66/000/001/0081/0084

AUTHORS: Katrus, O. A.; Kovalev, S. N.; Vonogradov, G. A.; Bernik, Ye. B.

37

B

ORG: Institute for Problems of Materials Behavior, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR); Ukrainian Scientific Research Institute for Super-Hard Materials (Ukrainskiy nauchno-issledovatel'skiy institut sverkhtverdykh materialov)

TITLE: Manufacture of a diamond tool by powder rolling,

SOURCE: Poroshkovaya metallurgiya, no. 1, 1966, 81-84

TOPIC TAGS: abrasive, diamond, powder metal compaction, handtool

ABSTRACT: A method for manufacturing a diamond abrasive tool by hot rolling diamond and bronze powders is described. The effect of rolling temperatures on the abrasive stability of the tool was investigated. Hot rolling at 730--750°C increases the stability of the tool by 4--5 times compared with the stability achieved by cold rolling. A photograph of the tool is presented. It is concluded that hot rolling diamond and metal powders offers good possibilities for the manufacture of diamond abrasive tools. Orig. art. has: 1 photograph.

SUB CODE: 311/

SUBM DATE: 01Jun65/

ORIG REF: 005/

OTH REF: 001

Card 1/1 gl

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860810009-8

VONOGRADOV, A.P., akademik; LAVRUKHINA, A.K.; REVINA, L.D.

Nuclear reactions in iron meteorites. Meteoritika no.24:  
22-28 '64.  
(MIRA 17:5)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860810009-8"

TALASIYCHUK, V.S.; VONOKOV, I.K.

Effect of varying water salinity on the sperm, roe, larvae and fry  
of the pike perch (Lucioperca lucioperca L.). Vop. ikt. no.5:  
39-47 '55. (MLRA 9:5)

1. Kaspiyskiy filial Vsesoyuznogo nauchno-issledovatel'skogo  
instituta morskogo rybnogo khozyaystva i oceanografii.  
(Perch) (Salinity)

TANASITCHUK, V.S.; VONOKOV, I.K.

Pike perch spawning in the lower reaches of the Volga Delta.  
Zool.shur. 34 no.5:1119-1127 S-0 '55. (MLRA 9:1)

I.Kaspiyskiy basseynovyy filial Vsesoyuznogo Nauchno-issledo-  
vatel'skogo instituta rybolovstva i okeanografii.  
(Volga Delta--Pike perch)

Vonokov I.K.

USSR / General Biology. General Hydrobiology

B-6

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 354.

Author : Vonokov, I.K.

Inst : Not Given

Title : Benthos of Kirov Shoals Fore-delta.

Orig Pub : Tr. Vses. n.-i. in-ta morsk. rybn. kh-va i okeanogr., 1956,  
32, 215-229

Abstract : A description of the dynamics of benthos biomass and its separate groups is given (without indicating the species) on two cross-sections in one section of the Volga fore-delta in the district of Kirov shoals during the period of mid-May to the beginning of August in 1949 and 1951. There is a comparison of the total biomass, the relationship of the individual groups, and also of benthos fodder value in 1949 and 1951. The data are on benthos changes in the investigated fore-delta district, relative to the fall of the Caspian level.

Card : 1/1

TANASIYCHIK, V.S., kand.biologicheskikh nauk; VONOKOV, I.K.

Effect of the salinity degree of water on the sperm and eggs  
of roach and bream in the northern Caspian. Trudy VNIRO 32:284-292, 1957  
(Caspian Sea--Salinity) (Bream) (Roach (Fish))

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860810009-8

USER/Biology - Zoology

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Periodical :

Author:

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860810009-8"

ACC NR: AP5028070 SOURCE CODE: GE/0030/65/012/001/0159/0180

44,55  
AUTHOR: VonKujawa, R.44,55  
ORG: Second Institute for Physics, Humboldt University, Berlin (II. Physikalisches Institut 46  
der Humboldt-Universität) 13

TITLE: Segregation processes in the solidification of doped tellurium 21

SOURCE: Physica status solidi, v. 12, no. 1, 1965, 169-180

TOPIC TAGS: tellurium, semiconductor, telluride, single crystal, 21, 44,55 crystal orientation, metal crystallization

**ABSTRACT:** The magnitude of the distribution coefficients of impurities in tellurium and its dependence on solidification rate and concentration is investigated by the normal-freezing technique to obtain information on the segregation processes so that the preparation of doped tellurium crystals and the zone-melting and purification of tellurium could be performed in a planned manner. The effective distribution coefficients and the effective diffusion coefficients for 21 tellurides in tellurium are determined and tabulated (Tables 1 and 2). Orientation and crystallization state (mono- or polycrystalline) did not affect the processes. A good approximation is obtained by the equation

$$k_{\text{eff}} = \frac{-A}{1 + e^{\frac{(\ln c_0 - \ln x_0)}{d}}}$$

Card 1/3

ACC-NR. AP5028070

where  $c_0$  represents the initial concentration,  $x_0$  the value of  $c_0$  at  $A/2$ , A is the constant in the Thurmond equation (Thurmond, C.C., and Struthers, J.D.; J. Phys. Chem., v. 57, 1957, p. 831), and d is a constant calculated from the curve gradient by using the formula  $\tan \alpha = A/4 \cdot 1/d$ . Orig. art. has: 14 formulas, 4 tables, and 9 figures.

Telluride	$k_0$	Telluride	$k_0$	Telluride	$k_0$
CuTe	$8 \cdot 10^{-7}$	In <sub>2</sub> Te <sub>3</sub>	$6 \cdot 10^{-8}$	Se	$2 \cdot 10^{-1}$
AgTe	$2 \cdot 10^{-6}$	TlTe	$2 \cdot 10^{-4}$	GeTe	$6 \cdot 10^{-4}$
AuTe <sub>3</sub>	$7 \cdot 10^{-6}$	TcJ	$2 \cdot 10^{-3}$	SnTe <sub>3</sub>	$1 \cdot 10^{-3}$
As <sub>2</sub> Te <sub>3</sub>	$1 \cdot 10^{-5}$	CdTe	>1	PbTe <sub>3</sub>	$1 \cdot 10^{-3}$
Sb <sub>2</sub> Te <sub>3</sub>	$3 \cdot 10^{-6}$	MgTe	$2 \cdot 10^{-4}$	CrTe	$2 \cdot 10^{-1}$
Bi <sub>2</sub> Te <sub>3</sub>	$9 \cdot 10^{-6}$	CaTe · Te	$8 \cdot 10^{-4}$	NiTe <sub>3</sub>	$9 \cdot 10^{-4}$
Al <sub>2</sub> Te <sub>3</sub>	$8 \cdot 10^{-6}$	HgTe	$5 \cdot 10^{-3}$	FeTe <sub>3</sub>	$5 \cdot 10^{-3}$

Table 1. Equilibrium distribution coefficients for 21 telluride dopes in tellurium.  $k_0 = k_{\text{eff}} (c_0 \rightarrow 0, v \rightarrow 0)$ , where  $k_0$  is the equilibrium distribution coefficient,  $k_{\text{eff}}$  is the effective distribution coefficient,  $c_0$  is the initial concentration, and  $v$  is the drawing rate

Card 2/3

L-27437-65

ACC NR: API5028070

Telluride	A	B	Telluride	A	B
C <sub>3</sub> Te	-15200	-27,0	AgTe	-17600	-30,0
AsTe <sub>3</sub>	-30200	-46,0	GeTe	-9070	-16,7
SnTe <sub>3</sub>	-9230	-15,8	PbTe <sub>3</sub>	-5600	-12,0
As <sub>3</sub> Te <sub>3</sub>	-6270	-11,8	Sb <sub>2</sub> Te <sub>3</sub>	-5080	-24,0
Bi <sub>4</sub> Te <sub>3</sub>	-18100	-29,0	Al <sub>2</sub> Te <sub>3</sub>	-8060	-14,3
Ir <sub>4</sub> Te <sub>3</sub>	-15050	-23,0	TlTe	-1300	-6,4
HgTe	-3820	-6,6			

Table 2. [The A and B constants in the Thurmond equation for various tellurides]

SUB CODE: SS, MM / SUBM DATE: 06Sep65 / ORIG REF: C08 / OTH REF: 043

Card 3/3 25

*Cla*

The effect of environmental temperature on food selection. Sz. Donhoffer and J. Komoly-(Mly. of Tech., Hungary). *Am. J. Physiol.* 150, 320-33 (1947).—Food consumption increases in white mice at low (10-11°) and decreases at high (20-33°) external temp. These changes were due to an increase or decrease in the intake of the carbohydrate-rich food, free selection of foods rich in carbohydrate, protein and fat being provided. Changes of thyroid function may play a role in qual. regulation of food intake. The effect of thyroxine on food intake and selection. *Ibid.* 334-9.—Prolonged administration of thyroxine considerably increased the food intake of white mice. The increase in food intake followed the rise in O consumption after a lag of some days and persisted for a similar period after the fall in the rate of metabolism. The addnl. cal. ingested during the effect of thyroxine were furnished, free selection was provided, mainly, in many cases entirely, by consumption of starchy food.

R. D. Walter\*

ASA-1A METALLURGICAL LITERATURE CLASSIFICATION

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860810009-8

VON PIESTE-RIVACE, L.  
K. VON CSIRKAY, B.P. 439,024, 6.7.35, Czechoslov., 21.12.34

APPROVED FOR RELEASE: 03/14/2001

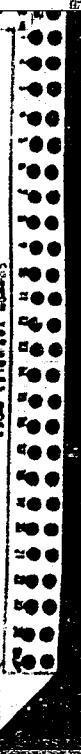
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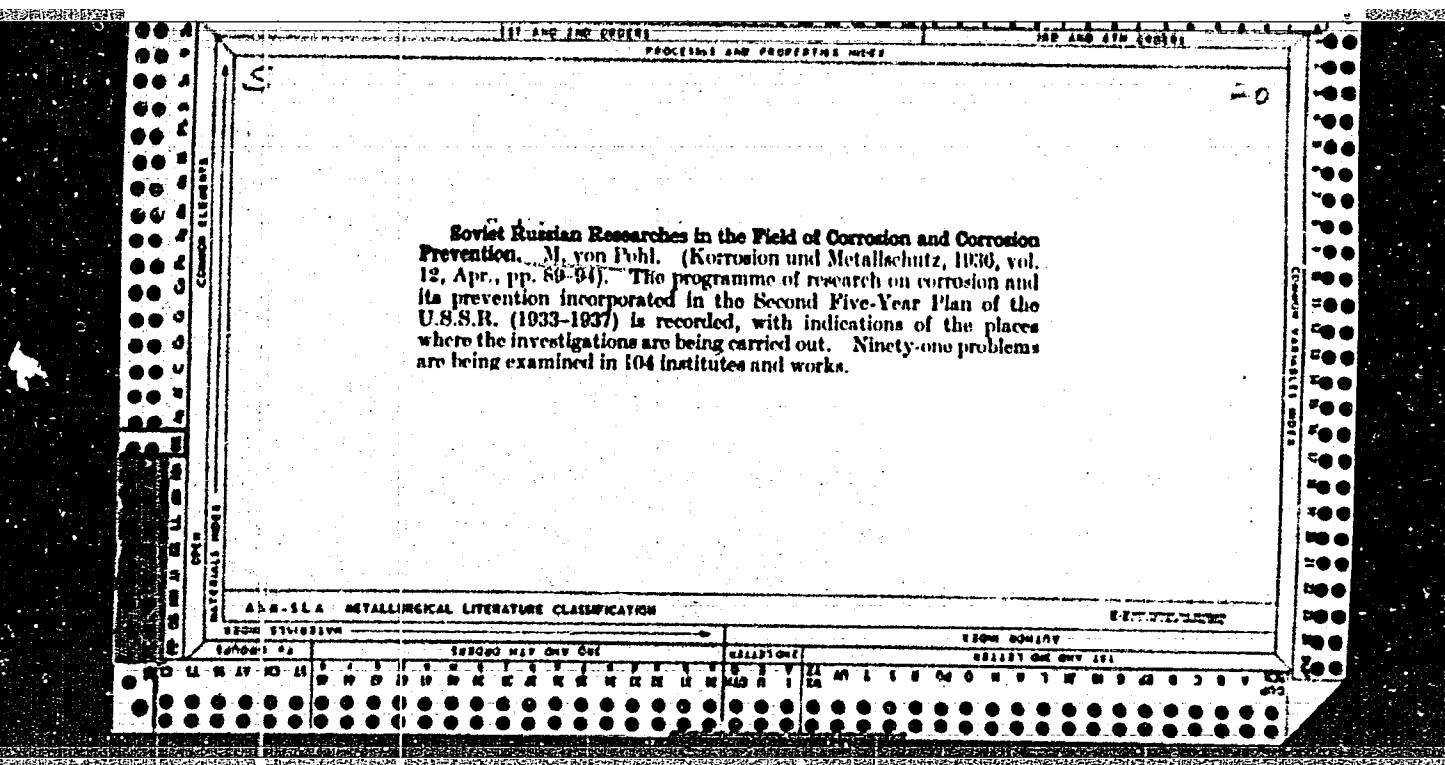
Cracking saturated gaseous hydrocarbons. W. von PIETROWSKI AND J. WEISLER.  
*Promyl. Chem.* 14, 49-64, 83-92 (1930).—Gaseous hydrocarbons, C<sub>n</sub>C<sub>m</sub>, regardless of their concn. in a given gas under proper conditions of temp. and time of heating (rate of flow) undergo pyrolysis with the production of appreciable amounts of unsatd. hydrocarbons. When the gas is heated too long, the hydrocarbons have a tendency to break down to CH<sub>4</sub>, C and H<sub>2</sub>, and when not heated long enough their decompr. is not complete. For every concn. of these hydrocarbons in the gas, there exist optimum temp. and length of heating which are inversely proportional to the concn. Thus, for a pure rlxst. of propane and butane the time of heating is the shortest (8 sec.); it is longest for gas contg. CH<sub>4</sub> and C<sub>2</sub>H<sub>6</sub> from "Cross" distn., and longest for gas of lowest concn., i. e., that from Boryslaw. The corresponding temps. are 730°, 740-60° and 780°. It was observed that C produced in the cracking acts catalytically on the hydrocarbons, favoring their decompr. to lower homologs and more C. The C deposited at low temp. (80°) is in the form of fluffy soot, and that produced at high temp. (870°) is coke. Temps. over 800° favor the formation of aromatic hydrocarbons, principally such compds. as C<sub>6</sub>H<sub>6</sub>, naphthalene, anthracene and phenanthrene (in the order of rising temp.). Among the products of cracking "Gasol" (Skerigas) at low temp. (700°), butadiene was noted, and at 800° and above, C<sub>2</sub>H<sub>2</sub>. The influence of temp. and time of heating is discussed in its relation to the mechanism of cracking of the low mol. wt. hydrocarbons. Cracking of the various kinds of satd. hydrocarbons to the reactive unsatd. hydrocarbons offers obvious economies. The greatest possibilities lie in the Boryslaw natural gas (stripped), next in the distn. gases, and even "Gasol." It is noted that every other gas contg. the homologs of CH<sub>4</sub> can be worked up profitably. The app. used in the exptl. work is described and fully illustrated by diagrams and photographs. Also in *Petroleum Z.* 26, 763-80 (1930).

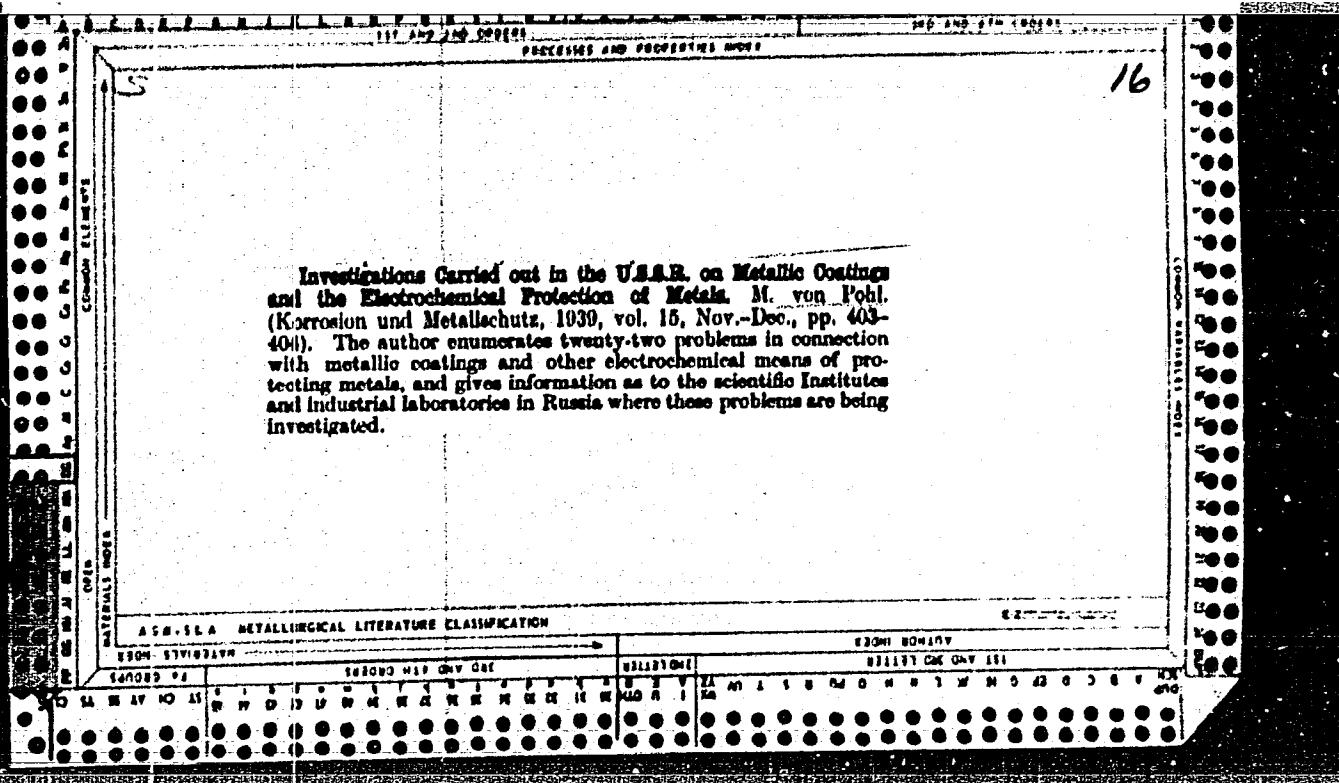
A. C. ZACHLIN

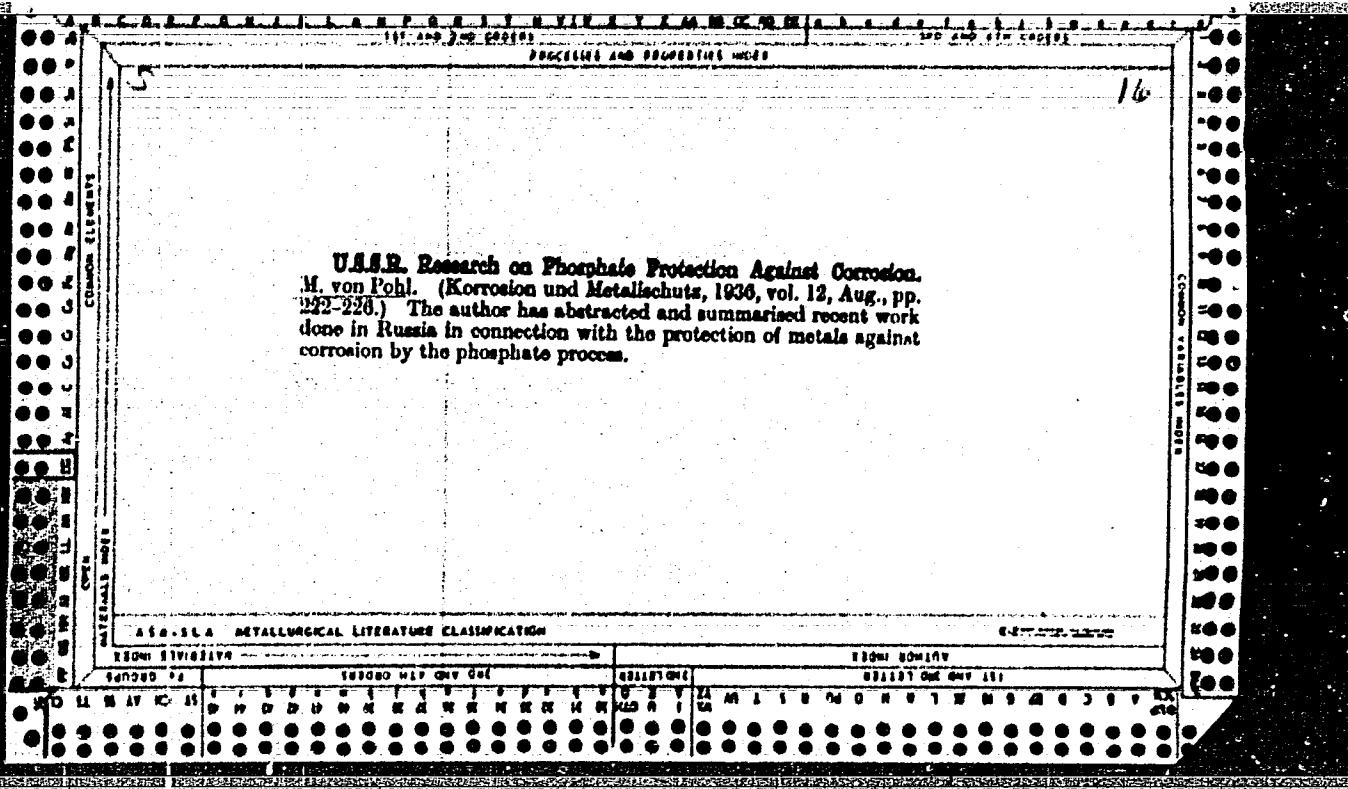
## ATA/SEA METALLURGICAL LITERATURE CLASSIFICATION

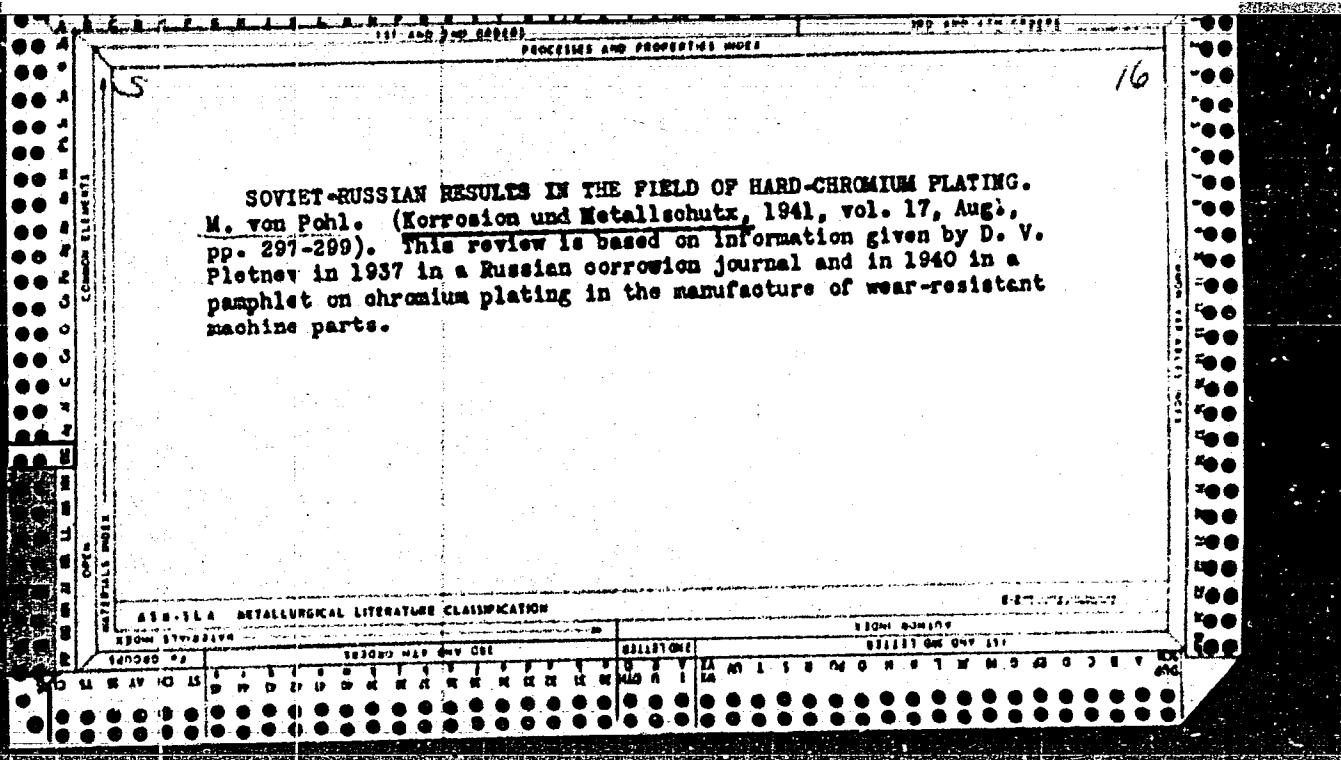
 Chemical Elements Open Material Index	<p style="text-align: center;">PROCESSES AND PROPERTIES INDEX</p> <p><i>S</i> <span style="float: right;"><i>20</i></span></p> <p>New Soviet-Russian Investigations in the Field of the Corrosion Protection of Chemical Plant. M. von Pohl. (Korrasion und Metall-schutz, 1937, vol. 13, Mar., pp. 97-102). Short summaries are presented of the contents of the undermentioned papers, &amp;c., taken from various Russian sources:</p> <ul style="list-style-type: none"> <li>W. D. JACHONTOW : The corrosion of materials in the construction of chemical plant.</li> <li>P. P. BIELAJEW, J. R. GUXKIRCHEN and J. BIRMAN : The electrolytic lead-plating of chemical plant.</li> <li>D. I. SYTSCHIKW : Acid-resistant silicate linings for reaction vessels.</li> <li>ANSENKOW : A new acid-resistant coating "Bituminol."</li> <li>M. I. FARBEROW : Application of rubber in the corrosion protection of chemical plant.</li> </ul> <p>From the Researches of the Federal Conference "Corrosion and the Chemically Resistant Metals" on the attack on metals by phosphoric, sulfuric, hydrofluoric and similar acids.</p> <ul style="list-style-type: none"> <li>K. N. IWANOW and L. J. KOSTOW : The corrosion of special steels in the synthesis of methanol.</li> <li>I. I. KURJMIN : The chemical destruction of material by solutions of sulphur and of ammonium sulphate, sulphite and thiosulphate, at high pressures and temperatures.</li> </ul> <p style="text-align: right;"><i>OVCY</i></p> <p style="text-align: center;">ASG-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">SEARCH STRATEGY</th> <th colspan="2" style="text-align: right;">SEARCH DOMAIN</th> </tr> <tr> <th colspan="2"></th> <th style="text-align: center;">SECTION</th> <th style="text-align: center;">SUBSECTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">147049</td> <td style="text-align: center;">22</td> <td style="text-align: center;">188001 ONE ONLY ONE</td> <td style="text-align: center;">SECTION ONE</td> </tr> <tr> <td style="text-align: center;">M</td> <td style="text-align: center;">W</td> <td style="text-align: center;">W</td> <td style="text-align: center;">W</td> </tr> <tr> <td style="text-align: center;">S</td> <td style="text-align: center;">W</td> <td style="text-align: center;">D</td> <td style="text-align: center;">D</td> </tr> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">D</td> <td style="text-align: center;">P</td> <td style="text-align: center;">P</td> </tr> <tr> <td style="text-align: center;">T</td> <td style="text-align: center;">P</td> <td style="text-align: center;">M</td> <td style="text-align: center;">M</td> </tr> <tr> <td style="text-align: center;">H</td> <td style="text-align: center;">M</td> <td style="text-align: center;">W</td> <td style="text-align: center;">W</td> </tr> <tr> <td style="text-align: center;">C</td> <td style="text-align: center;">W</td> <td style="text-align: center;">N</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">O</td> <td style="text-align: center;">N</td> <td style="text-align: center;">W</td> <td style="text-align: center;">W</td> </tr> <tr> <td style="text-align: center;">R</td> <td style="text-align: center;">W</td> <td style="text-align: center;">N</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">E</td> <td style="text-align: center;">N</td> <td style="text-align: center;">W</td> <td style="text-align: center;">W</td> </tr> <tr> <td style="text-align: center;">L</td> <td style="text-align: center;">W</td> <td style="text-align: center;">N</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">U</td> <td style="text-align: center;">N</td> <td style="text-align: center;">W</td> <td style="text-align: center;">W</td> </tr> <tr> <td style="text-align: center;">I</td> <td style="text-align: center;">W</td> <td style="text-align: center;">N</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">V</td> <td style="text-align: center;">N</td> <td style="text-align: center;">W</td> <td style="text-align: center;">W</td> </tr> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">W</td> <td style="text-align: center;">N</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">Z</td> <td style="text-align: center;">N</td> <td style="text-align: center;">W</td> <td style="text-align: center;">W</td> </tr> </tbody> </table>	SEARCH STRATEGY		SEARCH DOMAIN				SECTION	SUBSECTION	147049	22	188001 ONE ONLY ONE	SECTION ONE	M	W	W	W	S	W	D	D	A	D	P	P	T	P	M	M	H	M	W	W	C	W	N	N	O	N	W	W	R	W	N	N	E	N	W	W	L	W	N	N	U	N	W	W	I	W	N	N	V	N	W	W	Y	W	N	N	Z	N	W	W	 Open Material Index
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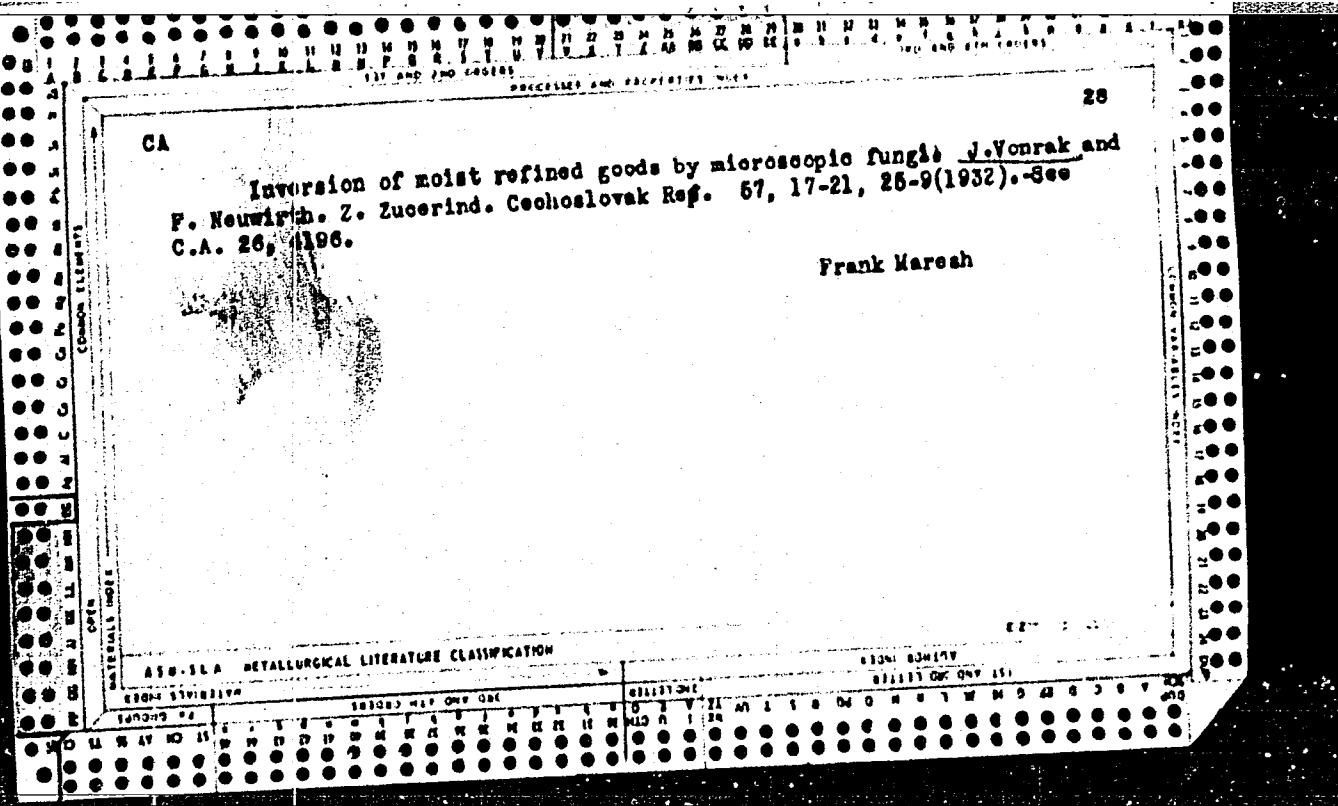
I. I. SIDOROVICH : The attack on metals by boiling liquids under a vacuum.  
M. M. ROMANOW and O. I. WER : The corrosion of materials in the manufacture of artificial leather.  
E. ANSENKOW : Acid-resistant linings of Textolit and Chaweg.

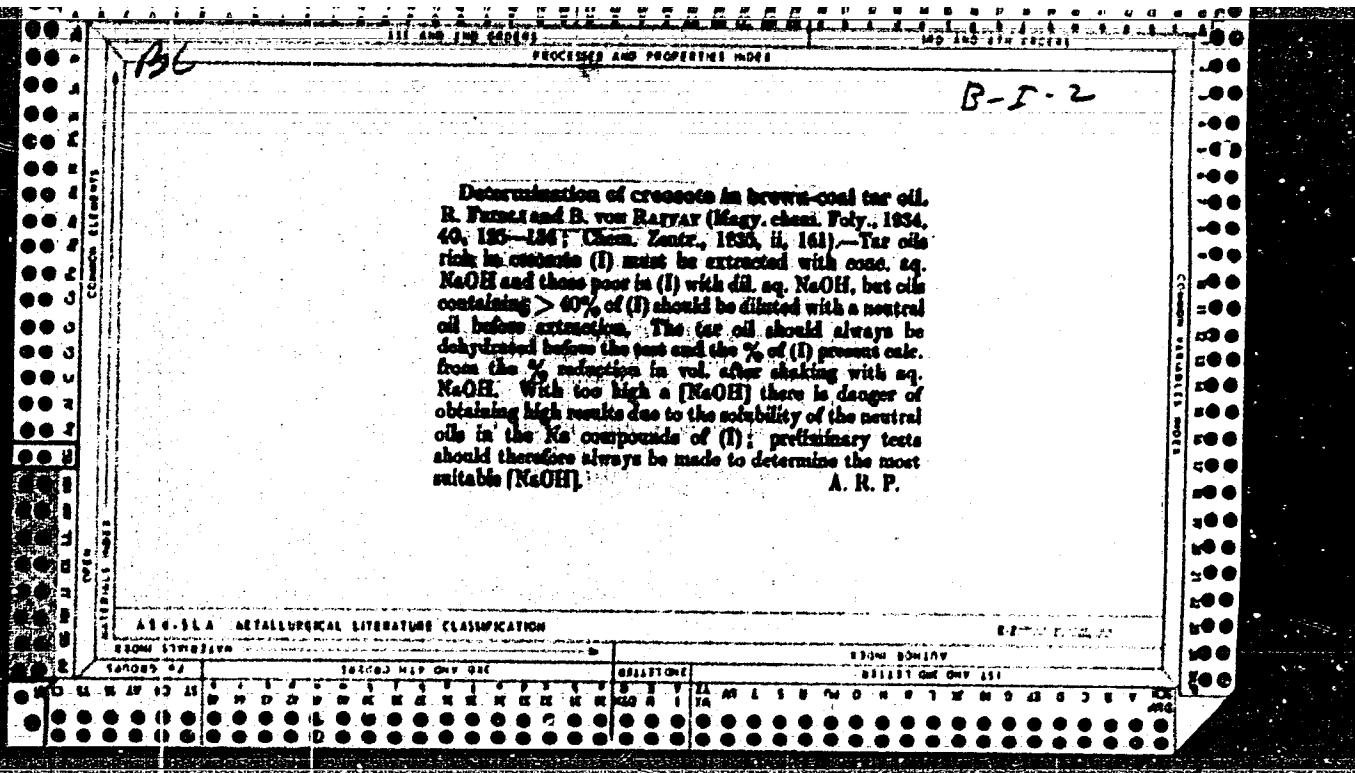


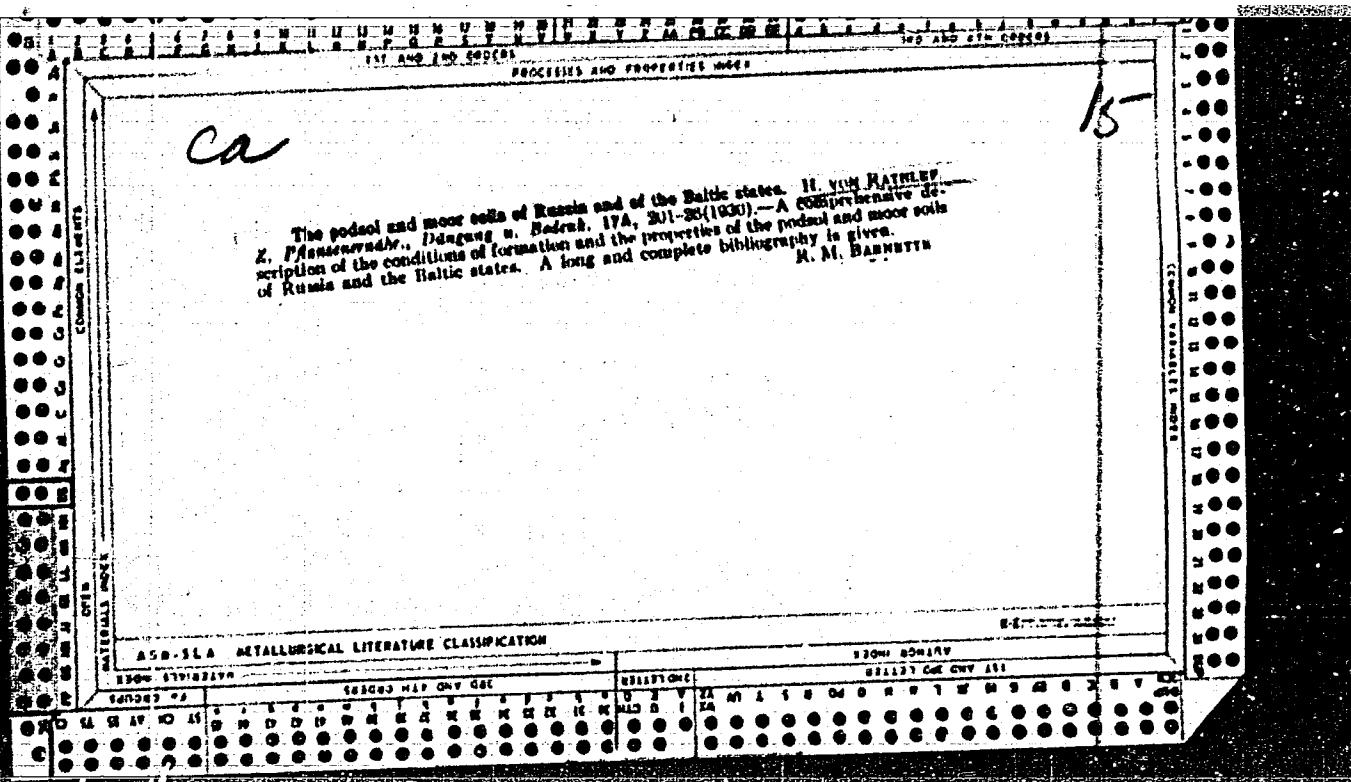


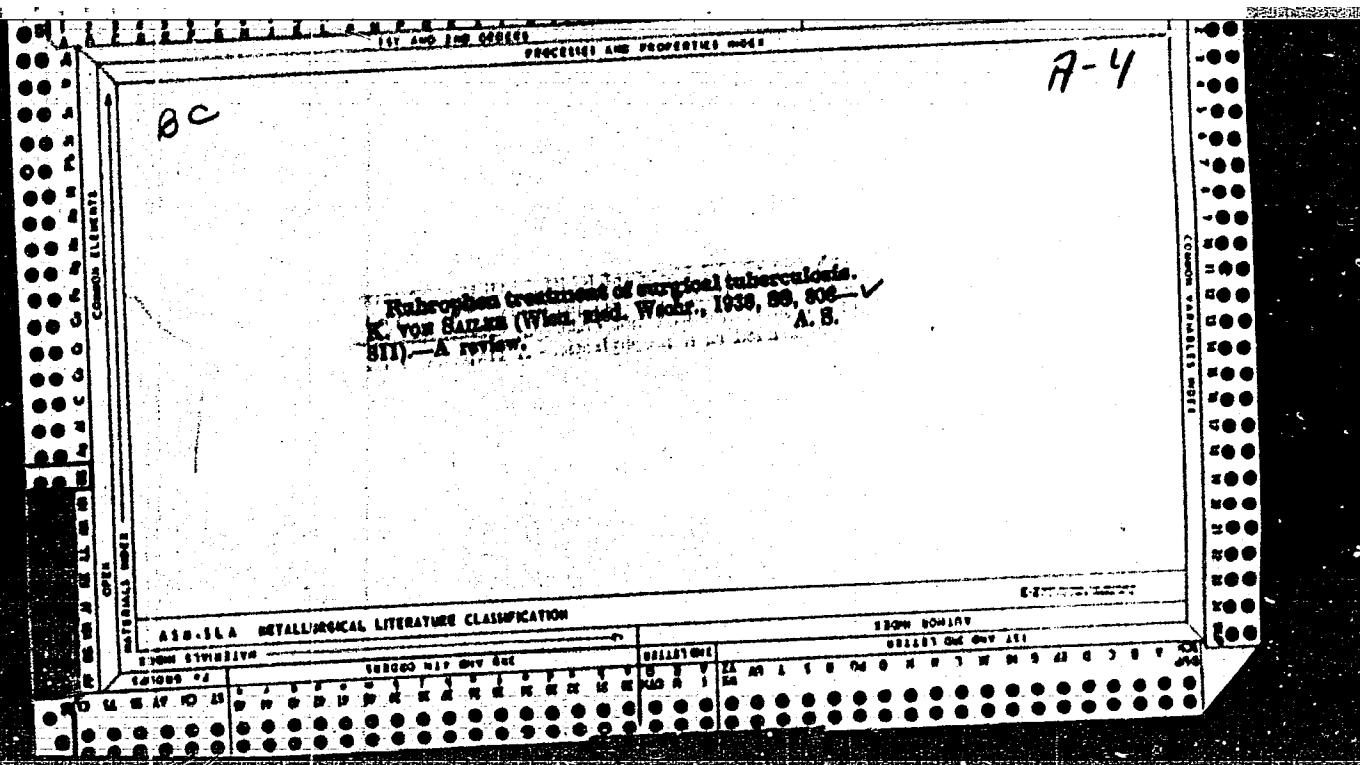


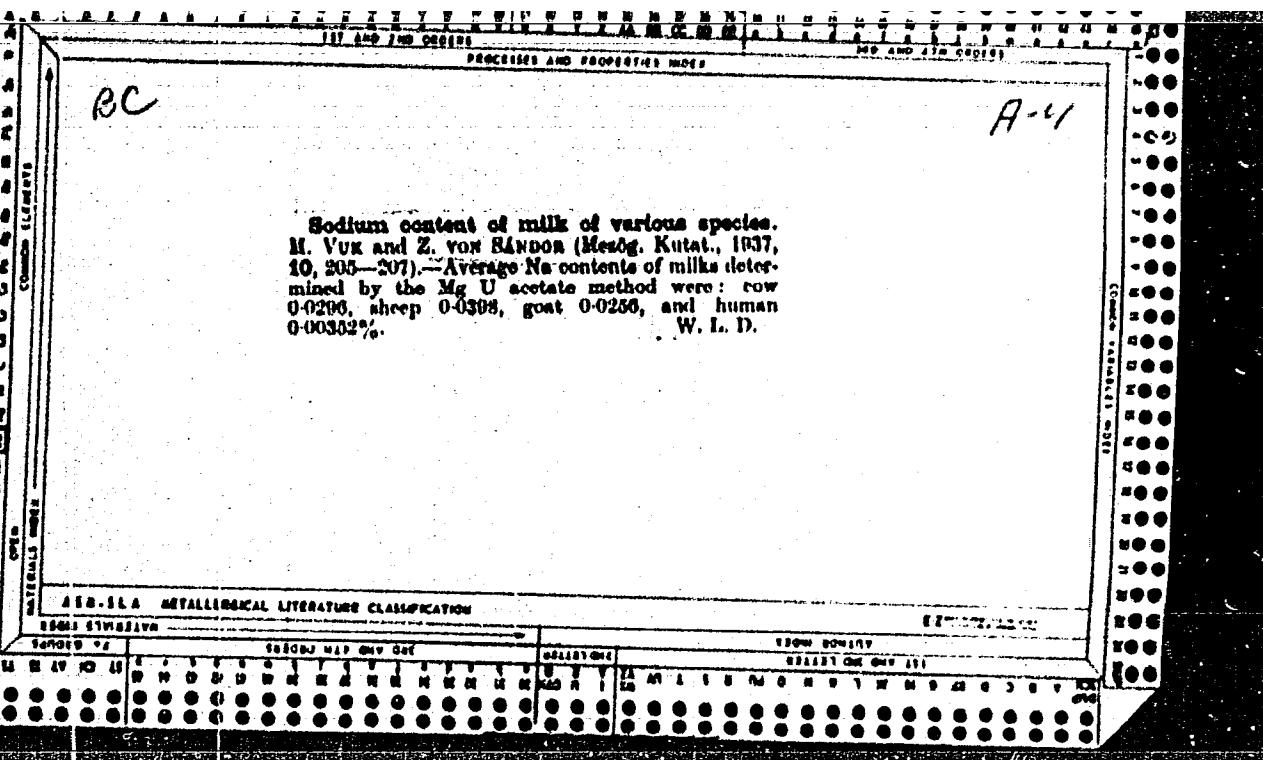












VONSAROVSKIY, N.; PRILEZHAYEVA, N.

Control over stocks of equipment and materials. Den. i kred.  
19 no.11:61-64 N '61. (MIRA 14:12)

1. Nachal'nik otdela kreditovaniya promyshlennosti sovnarkhoza  
Odesskoy oblastnoy kontory Gosbanka (for Vonsarovskiy). 2.  
Starshiy kreditnyy inspektor Odesskoy oblastnoy kontory Gosbanka  
(for Prilezhayeva).  
(Odessa Province--Industrial procurement)  
(Odessa Province--Banks and banking)

Country : USSR  
Category : CULTIVATED PLANTS. Fodder.  
Abs. Jour. : REF ZHUR-BIOL, 21, 1958, NO-96020  
Author : Dasis, J.; Kotovichyute, E.; Vonsavichene, V.  
Institut. : Lithuanian Sci. Res. Inst. of Agriculture  
Title : The Effect of Macronutrients and Micronutrients  
on the Yield and Quality of Forage Grass  
Orig. Pub. : Tr. Lit. n.-i. In-ta zemled., 1957, 3, 206-254  
  
Abstract : For three years at Traku Voke (in Lithuanian SSR) experiments have been conducted on the effect of NPK and micronutrients on turf-pedzolic (TP) and peat soils. Mixtures of red clover and timothy were sown on TP with both a limed (L) and unlimed (U) background. Hybrid clover, timothy, dewsgrass, meadow fescue and Kentucky bluegrass were planted on the peat. NPK boosted the clover and timothy hay yields by 8% on U and by 41% on L. Nitragin exerted a beneficial effect on the clover hay  
  
Card: 1/4

Country :  
Category : CULTIVATED PLANTS, FEEDER  
Abs. Jour. : REF ZHUR-BIOL., 21, 1958, NO-96020  
Author :  
Institut. :  
Title :  
Orig. Pub. :

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Abstract : harvest solely during the first year, while azotobacter weakly affected the timothy hay output. The best timothy seed yield was gotten in the variant with boron (92-130% higher than the contr.), the lowest was with Mo (81-83%); a mixture of these nutrients worked weaker than were they were applied separately. On the peat soil NPK showed a still greater effect on the hay output (by 27% on L and 67% on the U). Cu and Co produced a positive influence on the hay yield only on L, whereas Cu acted very much better. A Cu and Co mixture caused a slight effect on the hay output. The N

Card:

2/1

Country :  
Category : CULTIVATED PLANTS. FODDER

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Abs. Jour. : REF ZHUR-BIOL, 21, 1958, NO-96020

Author :

Institut. :

Title :

Orig. Tio. :

Abstract : and crude protein content in the hay increased only under the influence of macrofertilizers (by 16-18 percent). Boron boosted the amounts of saccharose in clover and maltose in timothy. Mo on L soil significantly augmented the quantity of soluble carbohydrates in clover, although this was decreased on U. Cu raised the maltose and starch content in timothy on L soil, while lessening the mono-saccharide and saccharose content. Co showed a similar effect on carbohydrate content in clover.

Card: 3/4

70

Card: 4/4

CATEGORY : Cultivated Plants. Potatoes. Vegetables.  
Cucurbits.  
AES. JOUR : *Avt. Zauj - Biologiya*, No. 5, 1959, No. 20292  
AUTHOR : Dagys, J.; Vanaavichienė, V.; Morkunas, V.  
INST. : Lithuanian Inst.of Agriculture  
TITLE : The Effect of Micronutrients on the Potato Harvest.  
ORIG. PUB.: Soc. zemes ūkis, 1957, No.5, 42-44

ABSTRACT : At the experimental farm of the Lithuanian Institute of Agriculture a study was made in 1956 of the effect of copper and manganese fertilizers on the potato yield, the optimum doses of these and the application method of the fertilizers (regular and foliar dressing), putting industrial wastes to use. The optimum dose applied per hill was 6 kg/ha of CuSO<sub>4</sub> and 15 kg/ha of MnSO<sub>4</sub>, boosting the yield by 10.5 centners and 27 centners per hectare,

CARD: 1/2

VONSAVICHENE, V. N., Cand Biol Sci (diss) -- "The effect of trace elements on the potato harvest and its quality". Vil'nyus, 1959. 21 pp (Min Higher and Intermediate Educ USSR, Vil'nyus State U im V. Kapsukas), 150 copies (KL, No 9, 1960, 123)

GARUNKSHTENE, S.S.[Garunkstiene, S.]; GRIGYALIS, A.A.[Grigelis, A.],  
kand. geo.-miner. nauk; VONSAVICHYUS, V.P.[Vonsavicius, V.],  
red.; GAYGALAS, A.I.[Gaigalas, A.], red.; DALINKEVICHYUS,  
I.A.[Dalinkevicius, J.], red.; KAZAKOVA, V.A., red.;  
KISNERYUS, Yu.L.[Kisnerius, J.], red.; CHEPULITE, V.A.  
[Cepulyte, V.], red.

[Study of the geology of the U.S.S.R.] Geologicheskaja izu-  
chennost' SSSR. Vil'nius, Mintis. Vol.43. No.1. 1964. 244 p.  
(MIRA 18:10)

GRIGYALIS, A.A. [Grigelis, A.], kand. geol.-min. nauk, otd. red.;  
VONSAVICHYUS, V.P. [Vonsavicius, V.], red.; GUDYALIS,  
V.K. [Gudelis, V.], red.; DALINKEVICHYUS, I.A.  
[Dalinkevicius, J.], red.; KAZAKOVA, V.A., red.;  
KISNERYUS, Yu.L. [Kisnerius, J.], red.; CHEPULITE, V.A.  
[Cepulyte, V.], red.; ASSOVSKIY, A.N., glav. red.

[Study of the geology of the U.S.S.R.] Geologicheskaya  
izuchenost' SSSR. Glav. red. A.N. Assovskii i dr. Vil'nius,  
AN Litovskoi SSR. Vol.43. [Lithuanian S.S.R.; the period of  
1800-1955] Litovskaya SSR; period 1800-1955. No.1. [Published  
works] Pechatnye raboty. 1962. 257 p. (MIRA 17:8)

1. Institut geologii i geografii AN Litovskoy SSR (for  
Grigyalis).

VONSKIY, S. M., Cand of Agric Sci — (diss) "Investigation of the Intensity of the Flames of a Forest Fire of Various Trees," Leningrad, 1959, 13pp (Leningrad Forestry-Engineering Academy im S. M. Kirov) (KL, 4-60, 121)

VONSKOVA, M.; ZDEBSKAYA, Ya.

Conservation of nature during the lessons and in extracurricular  
work on biology in the school of Poland. Biol. v shkole  
no.4:59-61 Jl-Ag '61. (MIRA 14:7)  
(Poland--Natural resources--Study and teaching)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860810009-8

BARKAN, Ya.D., inzh.; VIGA, A.Ya., inzh.; VONSOVICH, M.Ya., inzh.

Some problems of the automation of voltage regulation. Elek.  
sts. 34 no.9:17-23 S '63. (MIRA 16:10)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860810009-8"

KUZ'MIN, Ya.F., dotsent; VONSOVICH, M.Ya., inzh.

Experience in operating 110 kv. substations without cutouts on the  
voltage end. Elek. sta. 32 no.12:63-66 D '61. (MIRA 15:1)  
(Electric substations) (Electric power distribution)

ACC NR: AP7001174

SOURCE CODE: PO/0031/66/011/004/0461/0478

AUTHOR: Wasowicz, Zbigniew; Vonsovich, Z.

ORG: Department of Electric Engineering in Metallurgy, Academy of Mining and Metallurgy (Katedra Elektrotechniki Hutniczej, Akademia Gorniczo-Hutnicza)

TITLE: Magnetic transformer elements with single-or multiple-complementary inputs used in automatic control systems

SOURCE: Archiwum automatyki i telemechaniki, v. 11, no. 4, 1966, 461-478

TOPIC TAGS: automation, industrial automation, automatic control system, switching circuit, telemechanics, digital technique, discrete logic system, magnetic transformer, input signal, complementary input, hysteresis loop

ABSTRACT: Methods of analyzing and synthesizing switching circuits (discrete logic systems) such as are used in industrial automation, for digital techniques, and in telemechanics are discussed. A magnetic transformer element with a rectangular hysteresis loop and affirmative and complementary inputs is the basic component for these systems. The author refers to this transformer element as the "AND-NOT" element because of its signal transfer properties. It was proven

Card 1/2

ACC NR: AP7001174

that introduction of an element with a multiple complementary input, and of an OR element results in a significant reduction in the number of components needed for the logic systems discussed. Having assumed that up to 10 input windings (for affirmative or complementary signals) can be wound on a magnetic core, it was pointed out which cascaded systems of these elements should include multiple complementary input elements. Orig. art. has: 22 figures and 39 formulas.  
[Based on author's abstract]

[DR]

SUB CODE: 09, 13/SUBM DATE: 15Dec65/ORIG REF: 002/SOV REF: 004/

Card 2/2

MYL, Jiri; VONSOVSKA, Bohumila

Contribution to the evaluation of pyrolusite as a depolarizer.  
Sbor VSChT Pardubice Pt.2:75-80 '63.

1. Chair of Inorganic Chemistry, Higher School of Chemical  
Technology, Pardubice.

VONSOVSKIY, S.

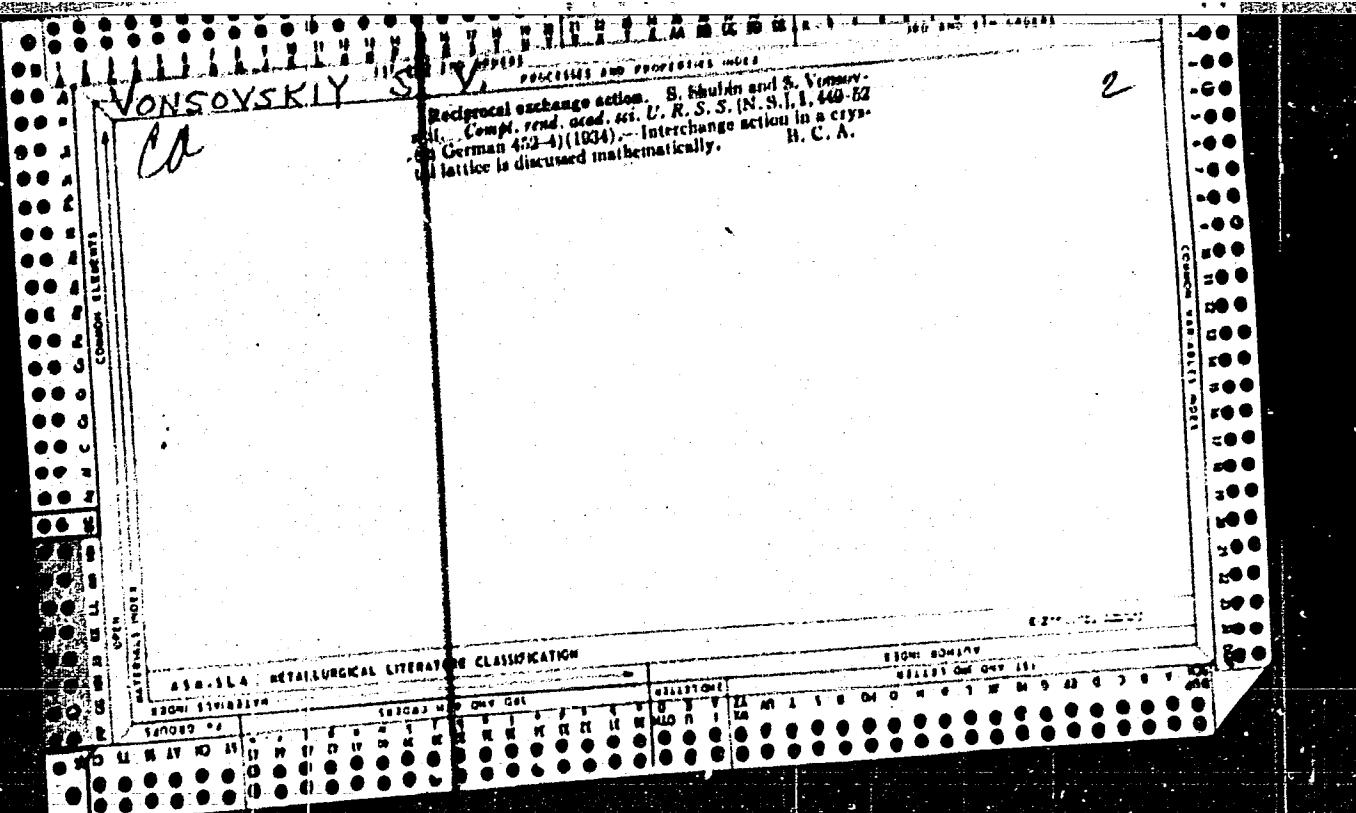
In the world of low temperatures. Av. i kozm. 45 no. 9:82-83  
'62. (MIR4 15:10)

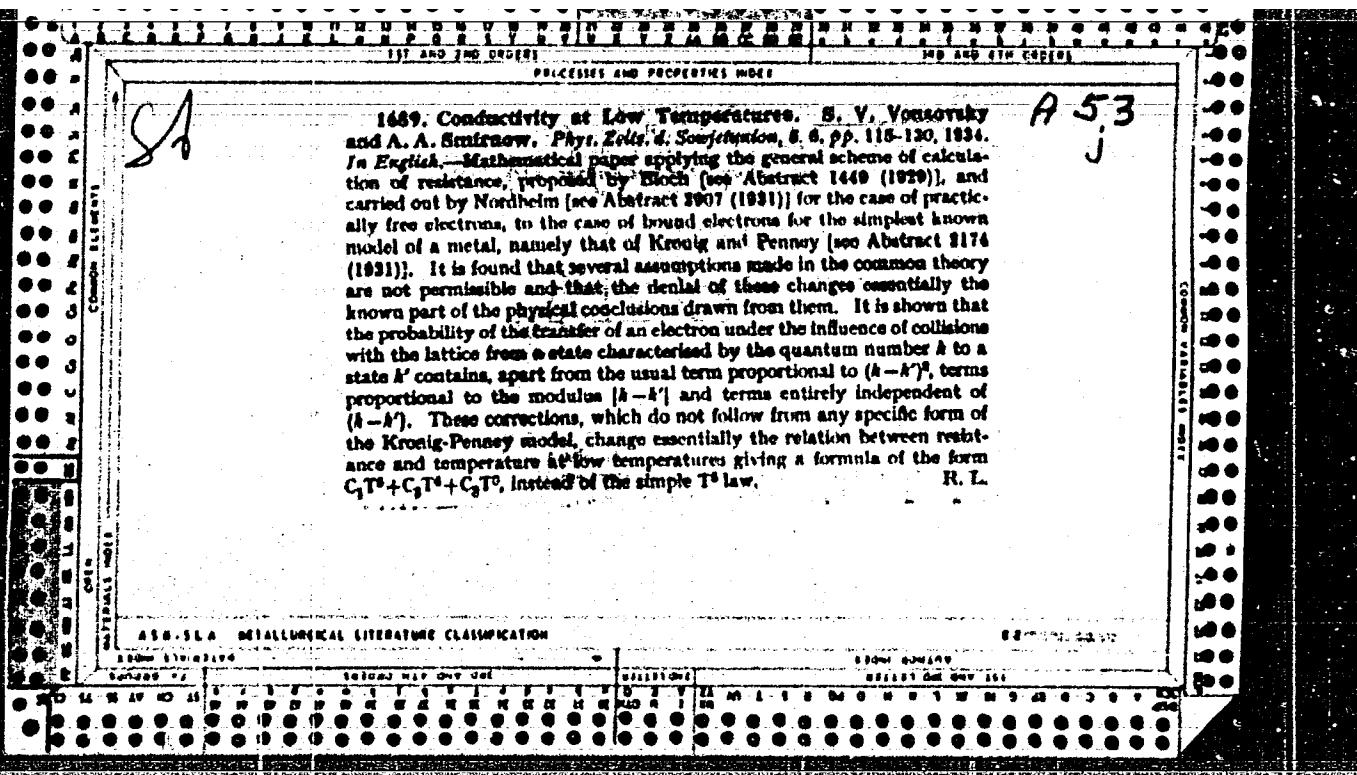
1. Chlen-korrespondent AN SSSR.

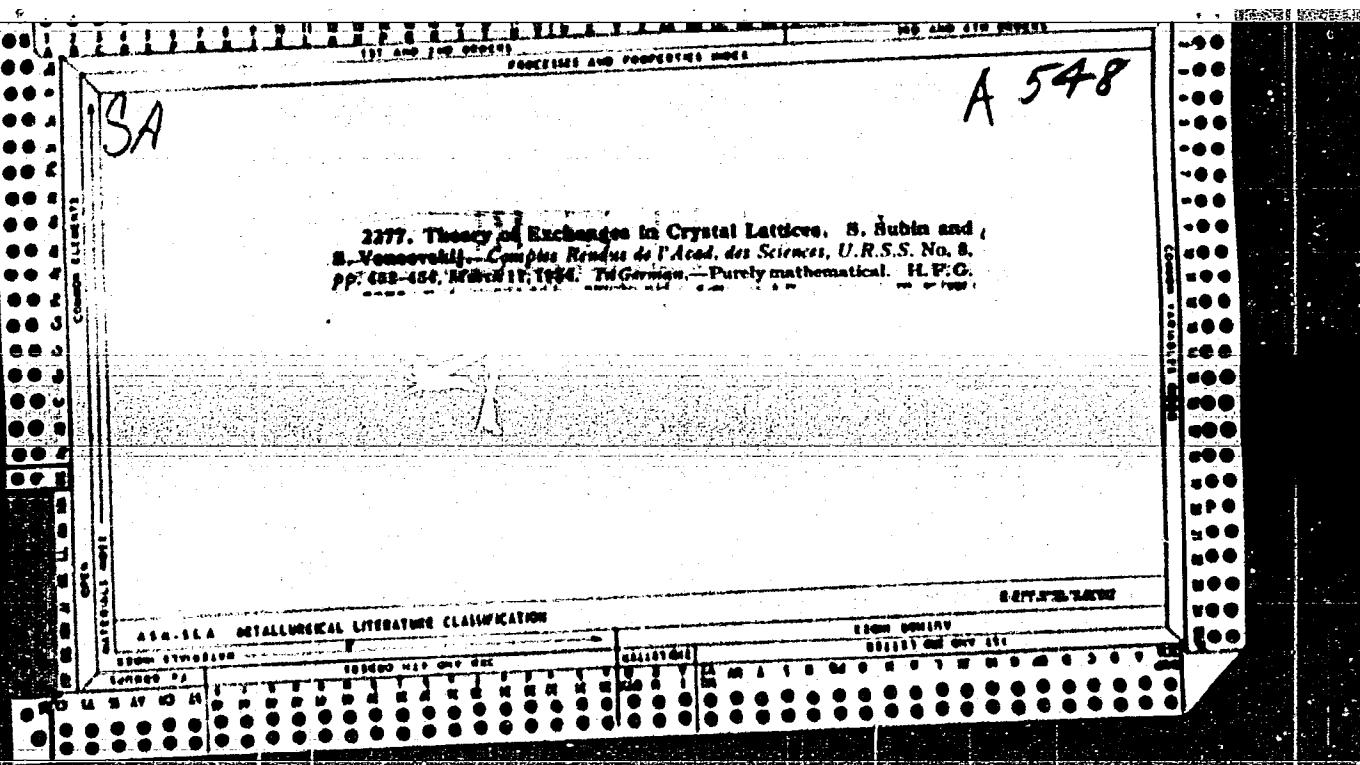
(Low temperature research)

VONSOVSKIY, S. V., SMIRNOV, A. A.

Electric Resistance at Low Temperatures. ZhETF 3, 361, 1933. Sov Phys.  
5, 115, 1934.







SHUBIN, S. P., VONSOVSKIY, S. V.

Electronic Theory of Metals.

Proc. Roy. Soc. A-145, 159, 1934.

Physik Z. Sowjetunion 7, 292-328, 1935

The electron theory of metals. S. Shubin and S. Vin-  
senski, *Fizika, Z. Sovjetunion* 10, 348-77 (1939); *C. A.* 33, 6341. Some questions in the theory of metals  
have been investigated from the standpoint of the Heitler-  
London approximation, polar states being taken into ac-  
count. The characteristic-value spectra and the charge-  
characteristic functions have been detd. for some special cases.  
Harold Gershwinitz

AIA-SEA METALLURGICAL LITERATURE CLASSIFICATION

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SEARCHED  SERIALIZED  INDEXED  FILED

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M

\*The Effect of Temperature on the Magnetic Anisotropy of Cobalt Single Crystals. N. V. Yomovskiy (Zhur. Eksp. i Teor. Fiz. (J. Expt. Theor. Phys.), 1938, 6, (10/11), 1104-1123).-[In Russian.] The relation between temperature and magnetic anisotropy of single crystals of cobalt is calculated on the basis of Bloch and Gentile's method (Met. Abs. (J. Ind. Metals), 1931, 47, 478). The theoretical curve agrees qualitatively with experimental data. In particular it shows the change in sign of the anisotropy constant which occurs on increasing the temperature (~ 500° K.). - N. A.

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

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VONSOVSKIY, S. V.

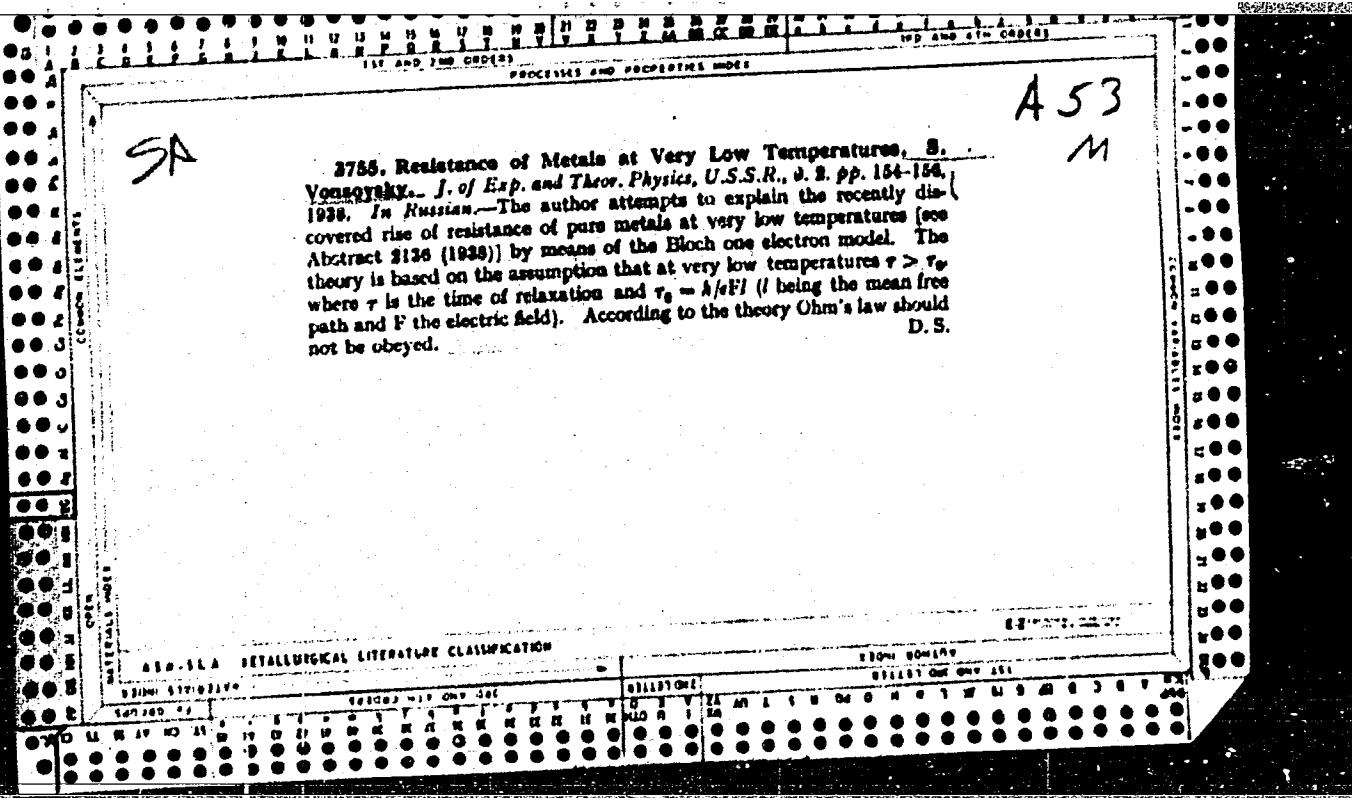
Theory of the Technical Magnetization Curve in Ferromagnetic Monocrystals.  
I. ZhETF 8, 1805, 1938.

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CIA-RDP86-00513R001860810009-8"

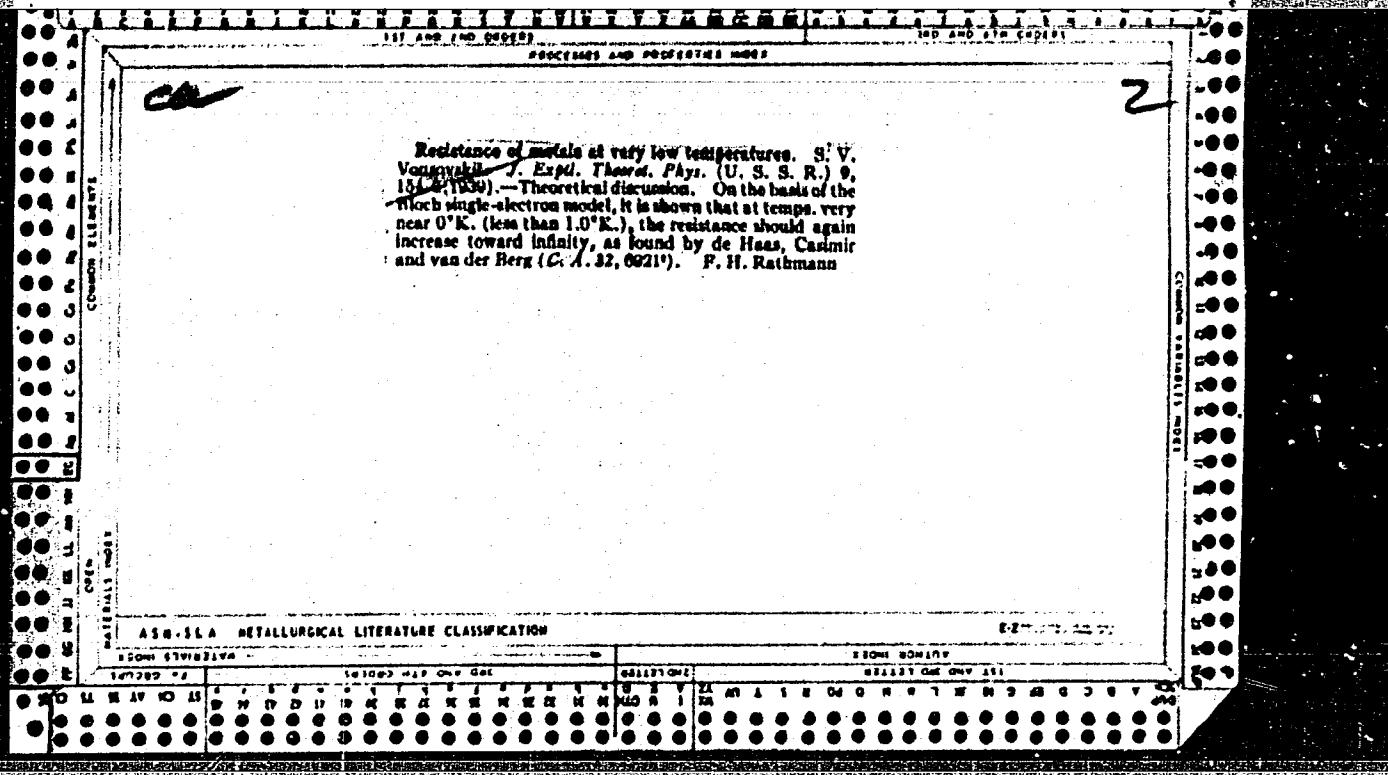
VONSOVSKIY, S. V.

Simple Calculations for Problems of Magnetic Defectoscopy. ZhETF 8, 1453,  
1938.



VONSOVSKIY, S. V.

Methodology of Testing of Transformer Steel. Vestnik Elektropromyshl.  
12, 28, 1938.



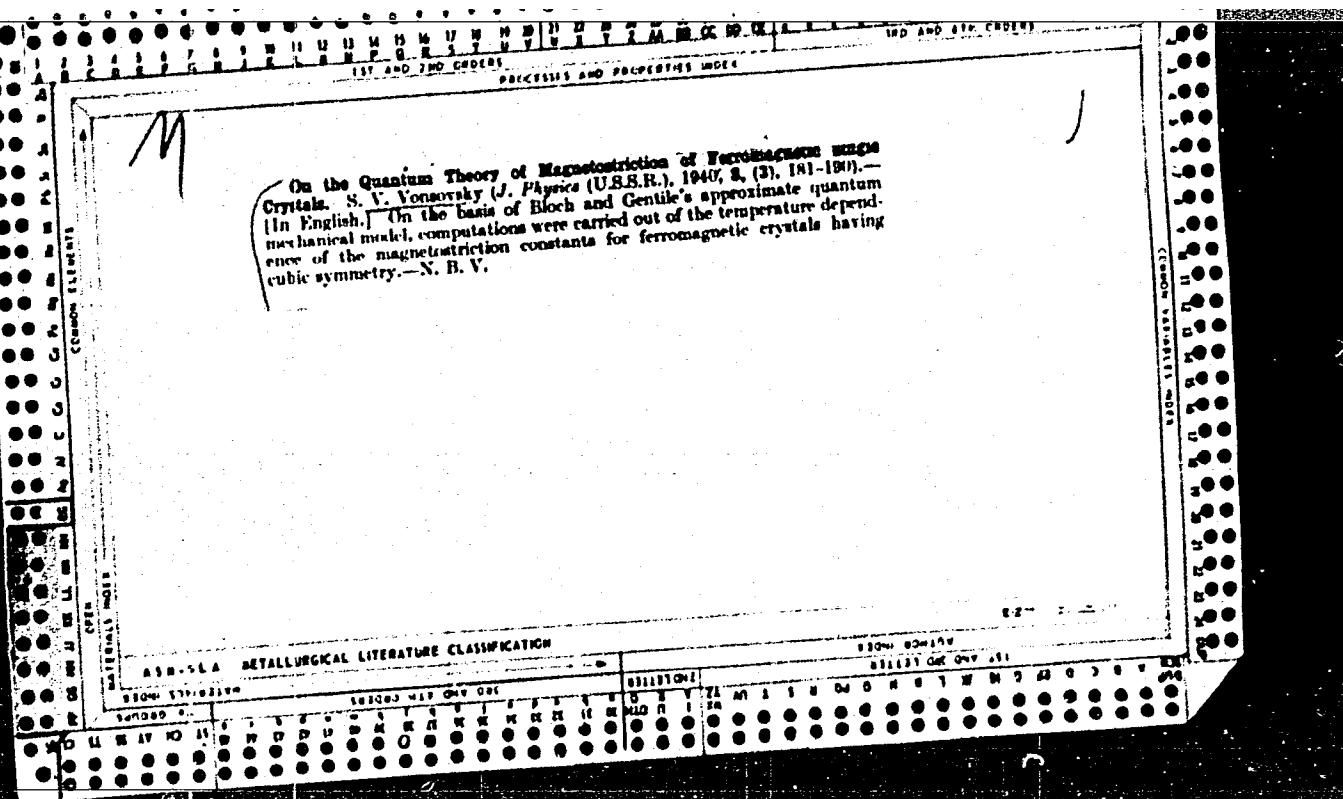
*m*

Energy of Magnetic Anisotropy and the Critical Field of a Ferromagnetic Cooled in a Magnetic Field. A. I. Vinogradsky (Zhur. Akad. Nauk SSSR, 1930, 8, (1), 702-707; No. 16, 1930, [A], 43, 61]. (In Russian.) Theoretical mathematical. The energy of magnetic anisotropy of a ferromagnetic cooled in "weak" (region of inversion) and "strong" (region of rotation) magnetic fields is calculated on the basis of Bozorth's theory (J. Applied Physics, 1937, 8, 575; Met. Obz., 1937, 4, 102). The effect of cooling in a magnetic field on the "critical" field (for which the magnetization curves become irreversible) is also calculated.

ASR-SLA METALLURGICAL LITERATURE CLASSIFICATION

M.G.

On the Theory of the Technical Magnetization Curve in Ferromagnetic  
Silica Crystals. S. V. Venkateswara. Physics (U.S.S.R.), 1940, 2, (1), 11-18;  
*Brit. Chem. Abs.*, 1941, [A 1], 157).—[In English.] A general qualitative  
explanation of the anisotropy of the coercive force,  $H_c$ , in single-crystal discs  
of iron is advanced. A quantitative explanation of the anisotropy of minimum  
values of  $H_c$  is given. Existing experimental data are reviewed and compared  
with theory.



VONSOVSKIY, S. V.

Anisotropy of Coercive Power of Monocrystals Cooled in a Magnetic  
Field. ZhETF 10, 451, 1940.

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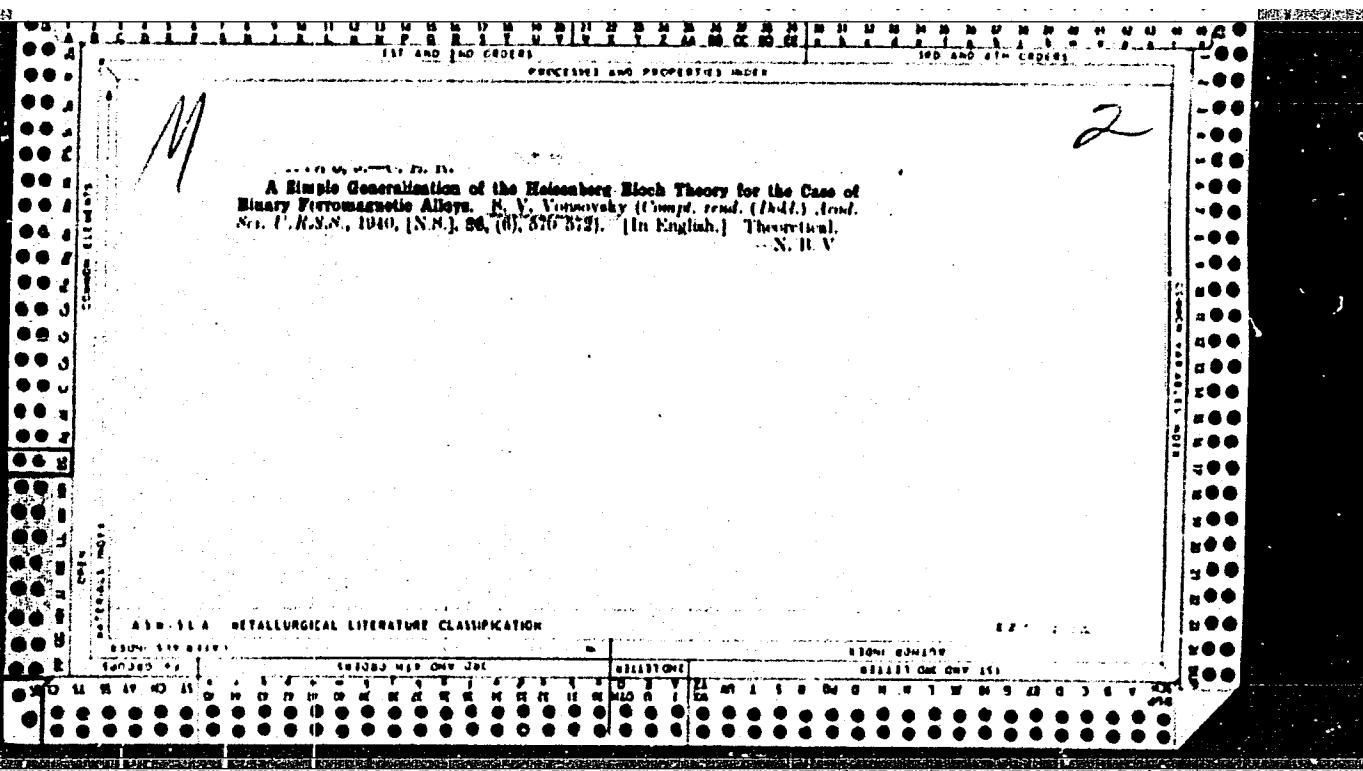
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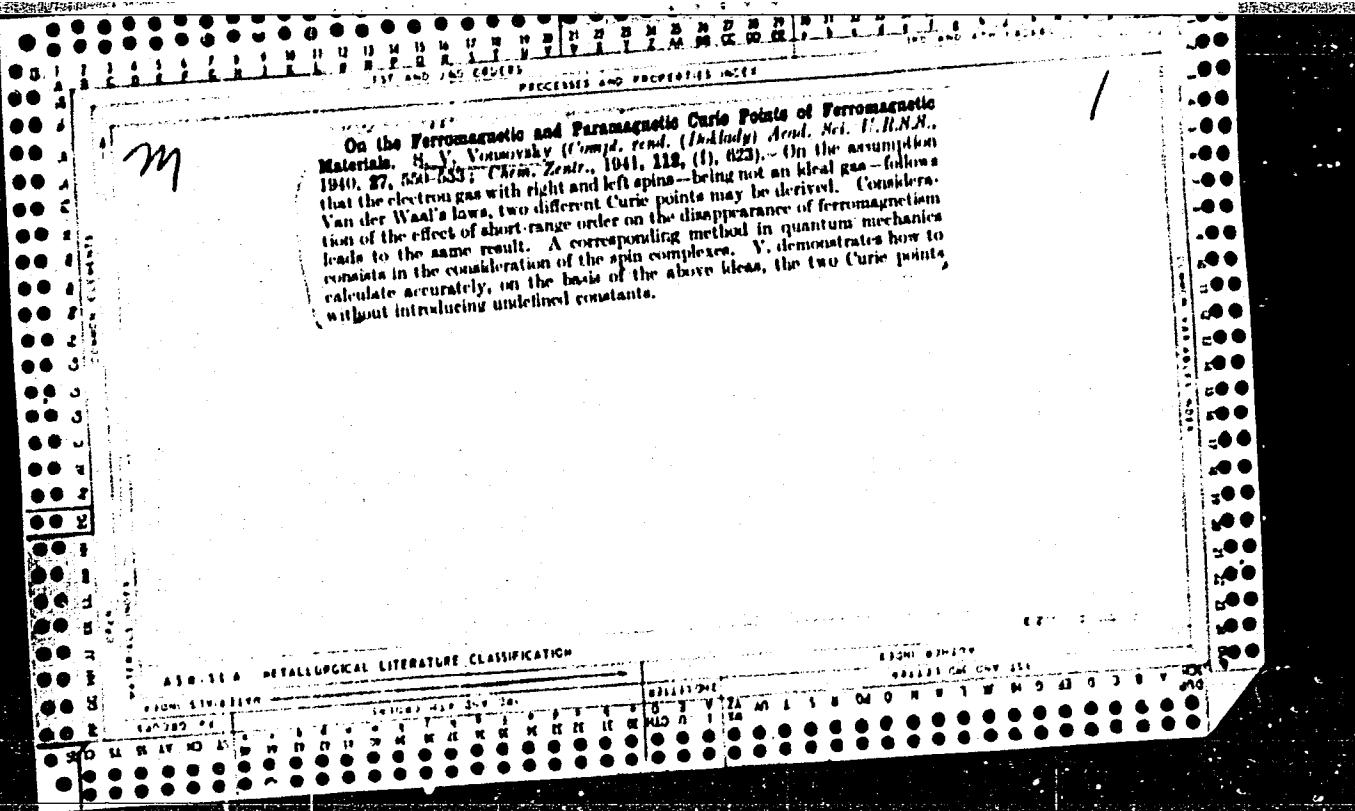
VONSOVSKIY, S. V.

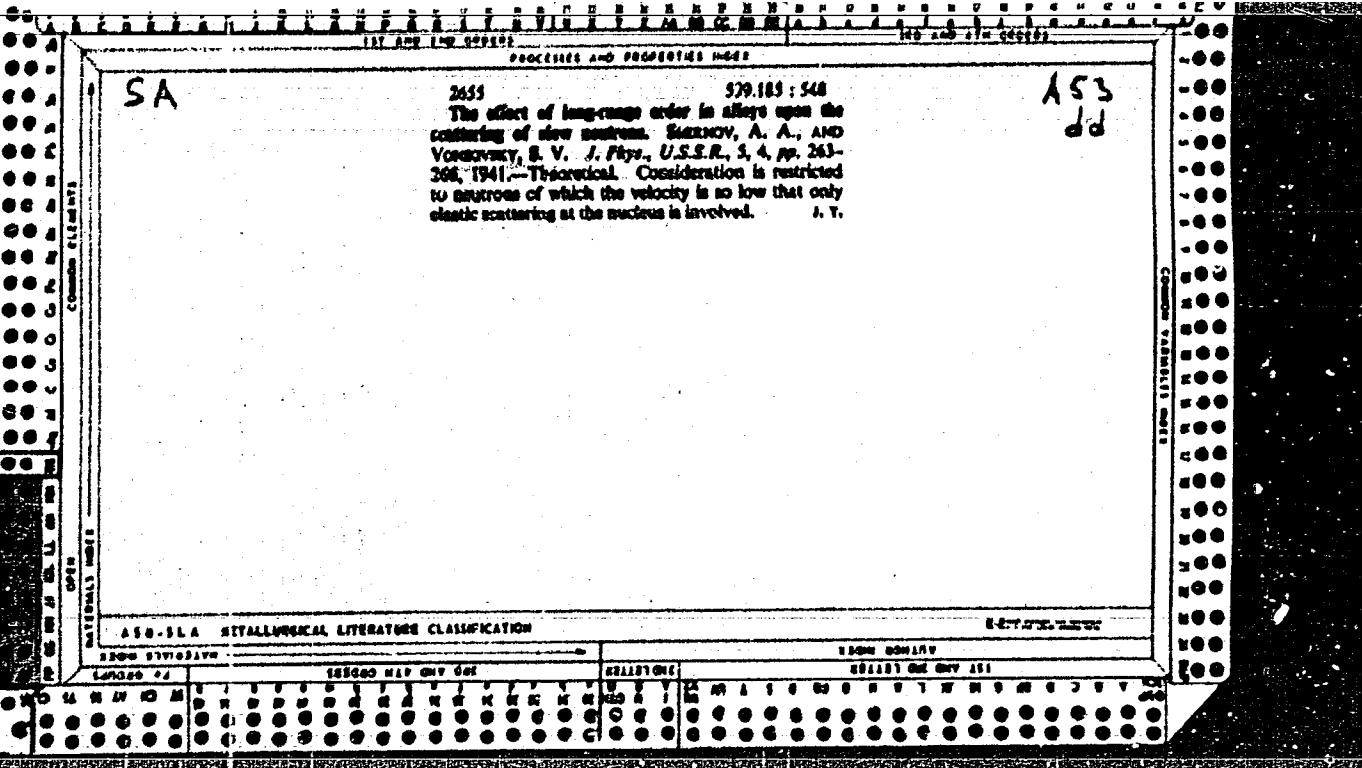
Quantum Theory of the Magnetstriction of Ferromagnetic Monocrystals.  
ZhETF 10, 762, 1940.

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860810009-8"







VONSOVSKIY, S. V.

Ferromagnetism.

Leningrad Physico-Technical Institute, 1942.

So: U-1837, 14 April 52.

*Exchange interaction of the valence and inner electrons in ferromagnetic (transition) metals.* S. V. Vonsovskii (Sverdlovsk State Univ.), *J. Exptl. Theoret. Phys.* (U.S.S.R.) 16, 1891-94(1940)(in Russian); *J. Phys. (U.S.S.R.)* 10, 468-75(1946).—The quantum-mechanical interaction energy between the d- and s-electrons of a transition metal is of the form  $W = -\gamma/(1 + \mu_s f(t))$ , where  $\mu$  is the mean magnetic moment per one d-electron,  $\gamma$  the magnetic moment of an s-electron,  $f$  the quasimomentum of the s-electrons, and  $f(t)$  an exchange integral. This is evaluated approx. in terms of an effective mass. This result can be expressed also by stating that the spin of the valence electrons is acted upon by a powerful "internal magnetic" field which is of the nature and also of the order of magnitude of the Weiss field and originates in the ferromagnetic d-electrons. Near the Curie point,  $\mu$  and hence the effective mass and the momentum distribution of the s-electrons change considerably. These results are correlated in a qualitative manner with the following exptl. facts: (1) The atomic magnetic moments are not integer multiples of the Bohr magneton and are different in the ferromagnetic and paramagnetic regions. (2) The elec. resistivity is decreased by the presence of spontaneous magnetization (W. Gerlach, *Ann. Physik* 8, 649(1931); Becker and Döring, *Ferromagnetismus* (C.A. 33, 7180)). The theory gives for the change in resistance  $\Delta\rho/\rho = -\gamma(\mu + \mu')^2$ , where  $\mu$  and  $\mu'$  are the av. magnetizations in the d- and s-shells and  $\gamma$  is a const. of order unity. Its value and sign are not given by the

theory.  $\Delta\rho$  is the difference between the actual resistance below the Curie point and that obtained from extrapolation of the values above. It is not claimed that the above interaction effect is the sole and basic reason for the anomalies observed in the  $\rho(T)$  curve. L. Tisza

CLASSIFICATION

REF ID: A6513

SEARCHED

SERIALIZED

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## ASA-51A METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED INDEXED

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INDEXED

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## SEARCHED INDEXED

SERIALIZED FILED

INDEXED

FILED

VONSOVSKIY, S. V.

Sep/Oct 1947

USSR/Physics  
Magnetization  
Megnetism

"Physics of Magnetic Phenomena," S. V. Vonsovskiy,  
Institute of Physics of Metals, Ural Branch, Academy  
of Sciences of the USSR, 8 pp

"Izv Ak Nauk SSSR, Ser Fizich" Vol XI, No 5

One of the greatest problems in contemporary science  
is the increased study of the magnetic properties of  
matter. Article is a simple discussion which stresses  
the importance of knowing the magnetic characteristics  
of the equipment we are using. Gives a brief descrip-  
tion of the role of various apparatus in determining  
the magnetic characteristics of matter.

36T82

IC

VONSOVSKIY, S. V.

PA 36784

USSR/Physics

Sep/Oct 1947

Ferromagnetism

Magnetism

"Criteria of Ferromagnetism," S. V. Vonsovskiy, Institute of Physics of Metals, Ural Branch, Academy of Sciences of the USSR, 8 pp

"Izv Ak Nauk, Ser Fizich" Vol XI, No 5

The basic characteristic of ferromagnetic materials is their ability to become magnetized spontaneously; however, this phenomena is very rare in nature, since of the 92 known elements there are only four which fall into this class. Article discusses the criteria of ferromagnetism, with the objective of explaining the reason why this phenomena is so rare in nature.  
LJ

VONSOVSKIY, S. V.

LE

USSR/Physics

Regulators

Ferromagnetism

Sep/Oct 1947

"Ferromagnetism as a Problem of Regulation," S. V. Vonsovsky, Institute of Physics of Metals, Ural Branch, Academy of Sciences of the USSR, 12 pp

"Izv Ak Nauk, Ser Fizich" Vol XI, No 5

Author introduces the article with a general description of the various hypotheses and theories which have been submitted on the regulation phenomena in ferromagnets. Then discusses and gives mathematical formula for the thermodynamic theory of magnetic transformation, and the quasi-classical treatment of

36185

Sep/Oct 1947

USSR/Physics (Contd)

Ferromagnetism with an account of the order in close proximities. Also mentions some of the scientists who have worked in some of the above fields.

36185

VONCOVSKIY, S. V.

USSR/Phys

Ferrromagnetism  
Magnetism

Nov/Dec 1947

Electrical Properties of Ferromagnetics," S. V. Novoselsky, Inst Phys of Metals, Ural Br, Acad Sci SSSR, 6 pp

Inv Akad Nauk SSSR, Ser Fiz" Vol XI, No 6

11 metals of the "transitional" groups, among them ferrromagnetics, have sharply expressed "anomalies" or electrical properties in comparison with "simple" metals. Basic cause of these "anomalies" lies in specific structure of the electron energy spectrum of the "transitional" metals, resulting from unbalanced

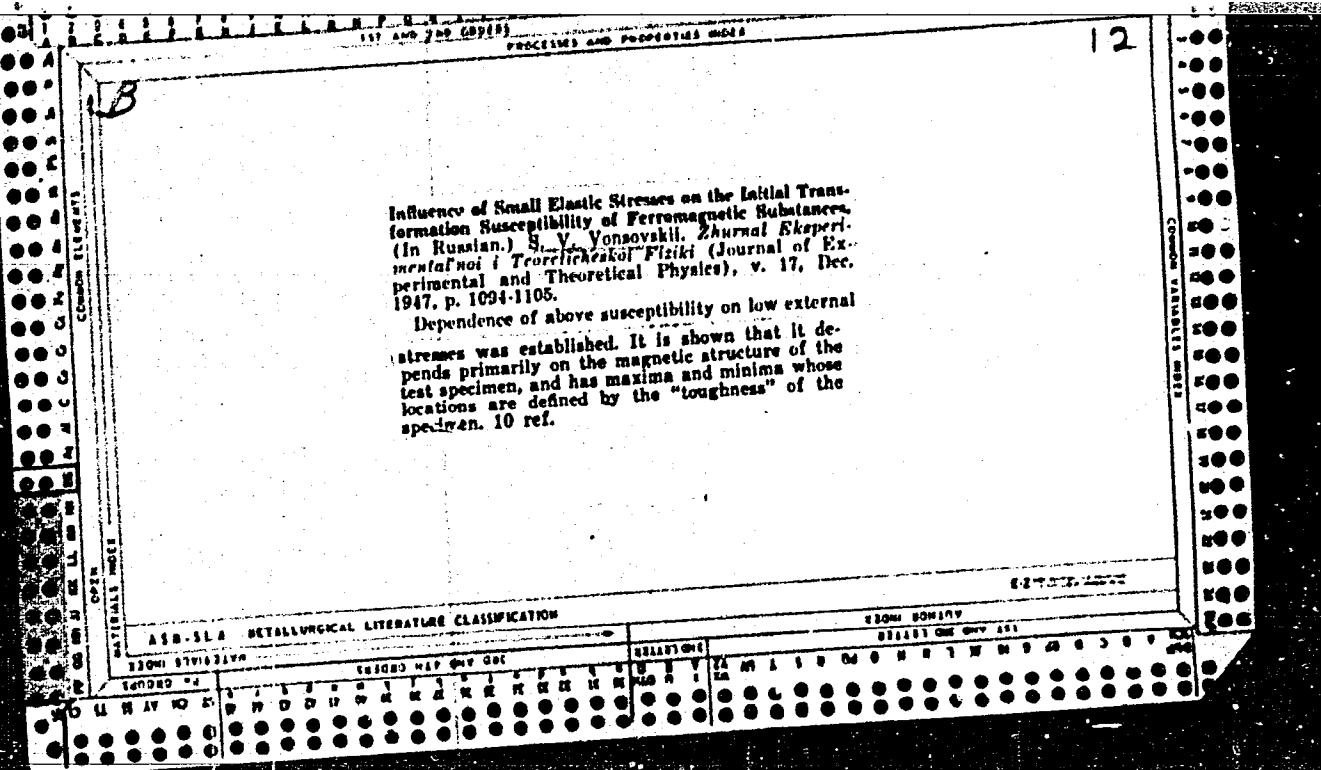
Nov/Dec 1947

5T82

USSR/Phys (Contd)

layers in the electron shell of isolated atoms of these elements. In ferrromagnetics, this detail of the energy spectrum leads to the existence of spontaneous magnetization which determines concrete form of the electrical "anomalies" of these substances.

5T82



Vonsovskiy, S. V., and Shur, Ya. S.  
Ferromagnetism.  
Moscow, 1948  
816p.

Monograph dealing with present day theory of ferromagnetism reviewing the latest experimental materials and works of Soviet metalo-physicists including the works of the authors themselves; published as a govt edition of technical-theoretical literature.

1. Russia--Physics
2. Russia--Physics--Research ii. Title
- i. Ferromagnetism iii. Shur, Ya. S. 16

VONSOVSKIY, S. V.

PA 53/49T85

USSR/Physics  
Crystals

Jul/Aug 48

"Theory of Electron Interaction in the Crystal Lattice," S. V. Vonsovskiy, Inst Phys of Metals, Ural Affiliate, Acad Sci USSR, 12 pp

"Tr Ak Nauk SSSR, Ser Fiz" Vol XII, No 4

Multielectron theory is the only logical approach since the system of electrons in the lattice is the only strongly interacting collective association in which each electron has lost most of its individuality as a free particle in the classical sense. Therefore, one should speak of an

53/49T85

USER/Physics

(Contd)

Jul/Aug 48

electron "liquid" in a crystal, and not of an electron "gas." Results indicate methods for practical solution of problems in the quantum theory of crystals. Submitted 24 Apr 48.

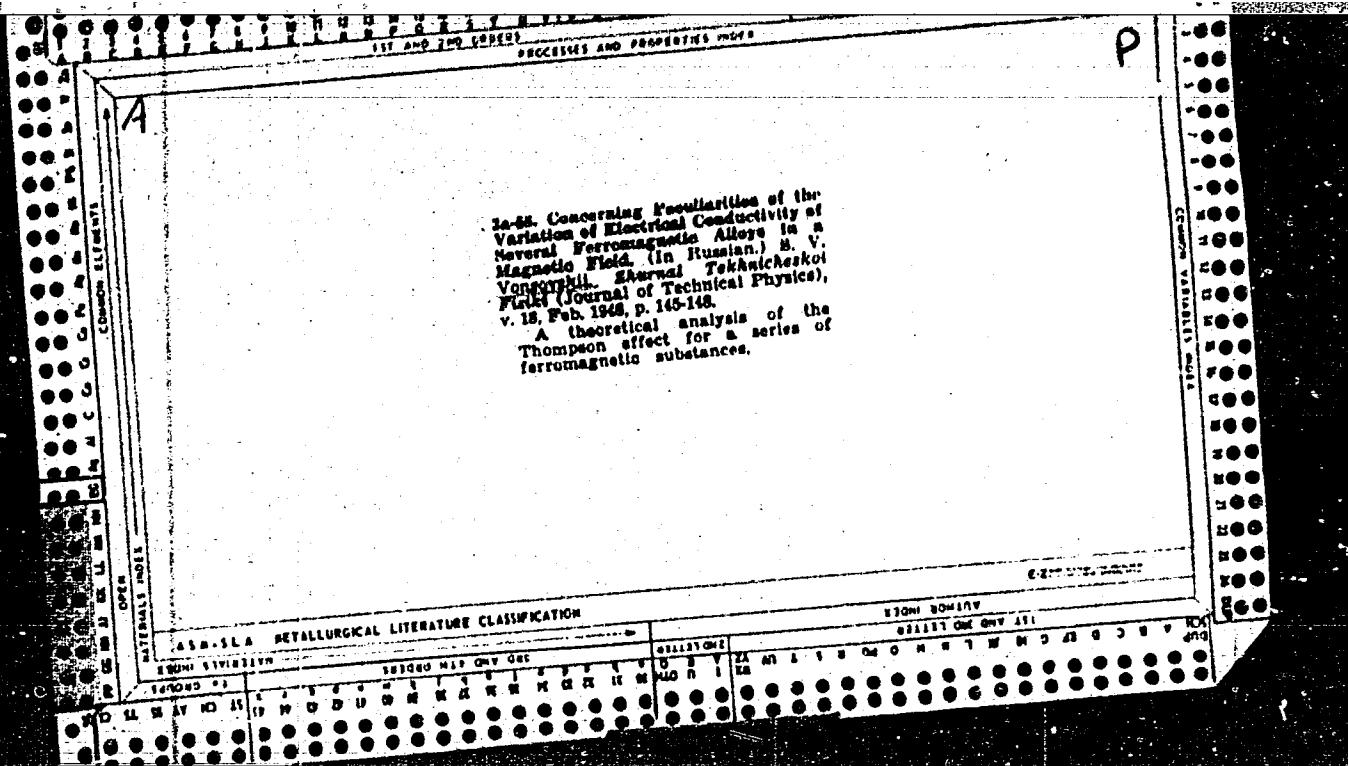
53/49T85

338.114  
1990. Theory of ferromagnetism of binary alloys.  
Vorontsov, S.Y. J. Tech. Phys., USSR, 18 (No. 2)  
131-144 (Feb., 1948) In Russian.—A simple generaliza-  
tion of quantum theory of ferromagnetism on the  
binary ferromagnetic alloys is presented. The relation  
between the ferromagnetic Curie point of these alloys  
and the concentration of their components on one

hand, and the degree of nearest order of the arrange-  
ment of their atoms with respect to the nodal points  
of the crystal lattice of the alloy, on the other hand. It  
is shown that at low temperatures there exists the  
same temperature-dependence of the spontaneous  
magnetization ( $\sim T^{1/2}$ ) as in pure ferromagnetic  
metals. Bitter's quasi-classical theory of ferro-  
magnetism is critically discussed. B. F. K.

A53  
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## APPENDIX A METALLURGICAL LITERATURE CLASSIFICATION



M

"Electrical Conductivity of Ferromagnetic Metals at Low Temperatures. S. V. Vengerovskiy (Zhur. Eksp. Teor. Fiz., 1948, 18, (3), 210-223).—[In Russian]. On the basis of an approx. model of a ferromagnetic metal and applying different treatments to the "external" conductivity  $s$ -electrons and the "internal" d-electrons, which govern spontaneous magnetization, the elect. resistivity has been examined for low temp. It has been shown that, at magnetizations close to the saturation value (i.e. for temp. low compared with the Curie point), the elect. resistivity of a ferromagnetic metal varies with temp.  $T$  according to the expression  $(\alpha T^6 + \beta T^4 + \gamma T^2)$ . The  $T^6$  term arises from collisions of  $s$ -electrons with "phonons" (quanta of thermal lattice vibrations); the  $T^4$  term arises from collisions between electrons; and the  $T^2$  term, which is peculiar to ferromagnetic metals, arises from collisions of  $s$ -electrons with "ferromagnons", i.e. Bloch "spin wave" quanta.—G. B. H.

Apr. 1952

USER/Physics

Magnetism

Superconductivity

Sep 48

"Present-Day Studies on Magnetism," S. V. Vonskovskiy, 53 pp

"Uspekhi Fiz Nauk" Vol XXVI, No 1

Continuation of article begun in preceding issue.

Discusses: (1) Phenomenological description of magnetic properties of matter, (2) classification of magnetic matter according to basic data obtained by experiments, (3) diamagnetism, (4) magnetic properties of superconductors, (5) paramagnetism, and (6) magnetic chilling. Major

USER/Physics (Contd)

Sep 48

part of reference material appears to be original Soviet work.

48/491100

IN 22/49100

USSR/Physica  
Magnetism  
Ferromagnetism

Jan 49

"Contemporary Studies on Magnetism: III,  
Magnetism of Substances - Ferromagnetism," S. V.  
Vonsovskiy, 64 pp

"Uspekhi Fiz Nauk" No 1

Treats subject under following: phenomenological  
description of ferromagnetic state of a substance,  
theory of spontaneous magnetization of ferro-  
magnetics, and theory of technical curve of  
magnetization. (Concluded in next issue)

22/49T86

VONSOVSKIY, S. V.

21390    VONSOVSKIY, S. V., I SOKOLOV, A. V. Opticheskie postoyannye ferromagnetikov. Zhurnal eksperim. i teoret. Fiziki, 1949, vyp. 7, S. 615-20 - Bibliogr: S. 620  
SO: Letopis' Zhurnal'nykh Statey, No. 29, Moska, 1949.

VONSOVSKIY, S.V.

Polar model of metals and semiconductivity. Trudy Inst. Fiz. Metal. Ural  
Filial Akad. Nauk S.S.R. No.12, 9-23 '49.  
(CA 47 no.21:10925 '53) (MLRA 4:2)

VONSOVSKIY, S.V.

Contemporary status of the quantum theory of ferromagnetism. Trudy Inst.  
Fiz. Metal. Ural Filial Akad. Nauk S.S.R. No.12, 24-39 '49. (MLRA 4:2)  
(CA 47 no.21:10926 '53)

CR

Optical constants of ferromagnetic substances. S. V. Vorovskii and A. V. Sokolov, *Zhur. Eksp. Teor. Fiz.* 19, 615-20 (1949); cf. C.A. 44, 2356a.—The anomalies of the optical const. of ferromagnetic metals are explained qualitatively on the basis of the (s-d)-exchange model of a crystal, which permits both the interaction of internal and external electrons and the acceleration of electrons in external elec. fields to be considered simultaneously. This model is used to calc. the dielec. const.  $\epsilon$  and the sp. cond.  $\sigma$  for the far infrared part of the spectrum (where the magnetic permeability can be neglected) and for temps. near the Curie point (where the spontaneous magnetization  $y'$  and  $y$ , of, resp., the s- and d-electrons is small and  $y' = k_1 y$ ;  $k_1 \sim 1.0$ ); they turn out to depend on  $y$ , which occurs as a function of temp. For this case the ferromagnetic anomaly of the emissive power  $E$  is given by:  $(E_0^3 - E^3)/E_0^3 = g y^3$  (where  $E_0$  is  $E$  for  $y = 0$ ,  $g_1 = (\delta'/\delta)^2 + 4k_1(\alpha'/\alpha + k_1)$ , and  $\delta$  and  $\delta'$  are "transition" energies of the order of magnitude  $10^{-15}$  to  $10^{-14}$  erg). The anomaly of the sp. resistance is  $\Delta\rho/\rho = gy^3$ . Exptl. results (cf. Wilson, *Quantum Theory of Metals*, O. G. I. Z., 1941, Chap. IV) completely confirm these results. General formulas are obtained for the range of visible and ultraviolet light, where effects connected with quantum transitions play the basic role. These expressions are complicated, but they show that the optical properties of ferromagnetic substances in the visible part of the spectrum should also have ferromagnetic anomalies at temps. below the Curie point, and that their nature is determined by  $y(T)$ . Sufficient exptl. data are lacking to test these general formulas.

Ellen H. Dunlap

VONSOVSKIY, S.

USSR/Physics  
Magnetism  
Optics

Aug 49

"Magnetooptical Phenomena in Ferromagnetics," S. V. Vonsovskiy, A. V. Sokolov, Inst Phys of Metals, Ural Affiliate, Acad Sci USSR, 5 pp

"Zhur Ekspерt Fiz" Vol XII, No 8

General explanation of rotation of the polarization plane and elliptical nature of light polarization when it passes through the ferromagnetic, and when it is reflected from the surface of a magnetized ferromagnetic mirror on the basis of the quantum

61/49T104

USSR/Physics (Contd)

Aug 49

theory of interacting inner and outer electrons of a ferromagnetic. Two basic conclusions were:  
 (1) Angle of rotation of the polarization plane and degree of ellipticity of light in both cases increases in proportion to magnetization of the specimen. (2) Proportionality coefficients are functions of spontaneous magnetization. Submitted 25 Mar 49.

61/49T104

PA 48/49T99

USSR/Physics

Magnetism

Ferromagnetism

Feb 49

"Contemporary Studies of Magnetism: III.  
Magnetism of Substances -- Ferromagnetics  
(Conclusion)," S. V. Vonscorskij, 46 pp

"Dopolni Fiz Nauk" Vol XVI, No 2

Treats under: (1) Ferromagnetics in variable  
magnetic fields and temporary effects: (a)  
dispersion of magnetic permeability, and (b)  
magnetic viscosity; (2) magnetic materials:  
(a) soft magnetic materials (nonpermanent  
magnetism) and (b) hard magnetic materials

48/49T99

USSR/Physics (Contd)

Feb 49

(permanent magnetism); (3) effect of residual  
magnetization on nonmagnetic properties of  
ferromagnetics: (a) heat properties, (b)  
magnetostriiction, and (c) electric, galvano-  
magnetic, thermoelectric, thermomagnetic and  
optical properties of ferromagnetics; and (4)  
conclusion [See 22/49T86].

48/49T99

The Theory of Goldfischer's Phenomenon in Ferromagnetism.  
S. V. Vonskryk and K. P. Radionov (*Doklady Akad. Nauk S.S.R.*, 1950, 78, (3), 643-646; *Izv. Akad. Nauk S.S.R.*, 1951, 54, 426).—(In Russian). Theoretical. The nature of the forces responsible for the Goldfischer effect (the change of elect. resistance in ferromagnetic crystals) has hitherto been obscure. In order to explain these forces a model proposed previously (*Zur. Elektro. Theor. Physik*, 1944, 16, 98; see *M.A.*, 16, 362) is used, in which the electrons of a ferromagnetic crystal that determine its magnetic, elect., and other phys. properties are conventionally divided between the inner s-electrons and the external d-electrons, between which there exists elect. (vol.) and magnetic (spin and spin orbital) interaction. It is suggested that ferromagnetic properties are determined fundamentally by the internal electrons and their properties by external electrons. Equations are deduced which indicate that the Goldfischer effect is completely determined by the magnitude of the spontaneous magnetization and not by the external magnetic field. The external field is responsible only for the initial orientation of the spontaneous magnetization.

VONSOVSKIY, S. V.

USSR/Physics - Conductivity, Electrical Nov 51

"Theory of Electrical Conductivity of Metals Taking Into Account Electronic Interaction," S. V. Vonsovskiy, K. B. Vlasov, A. V. Sokolov, Inst of Phys of Metals, Acad Sci Ural SSR

"Zhur Eksper i Teoret Fiz" Vol XXI, No 11, pp 1185-1200

Presents quantum mech computation of temp dependence of elec cond of metals near 0°K within the framework of a poly-electron polar model. Performed computation in approximation of weak "polarization" which allows one to use the method of quasi-particles and to apply kinetic eqs. This approximation is valid for "bad" metals with weak electron cond, whose energy spectrum is of the Bose type. Analyzes theoretical results.

204T88